

HYPRO[®]

2007

Hydraulic Pump Selection Guide



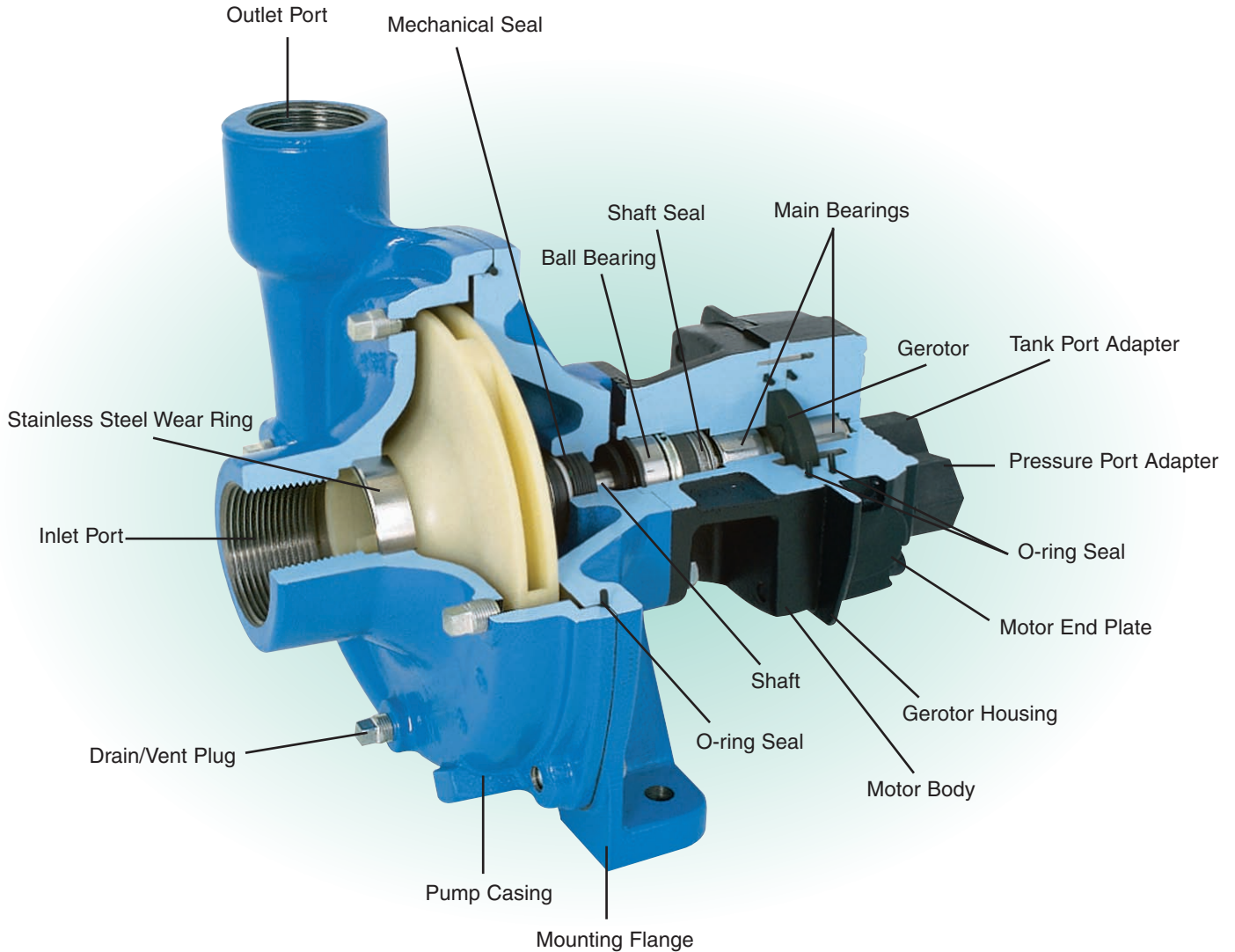
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Hydraulic Pump Selection Guide

Hypro offers a wide variety of hydraulic-driven centrifugal pumps for use in agricultural tractor applications. This guide will help you to select the appropriate pump for your situation. Simply locate your tractor manufacturer and model number, hydraulic system type, pressure and flow rate. The guide will show you which Hypro pump is best for you.



Cutaway view of Model 9303C-HM4C centrifugal pump

Tips for Better Performance

Best Practices for Tractor Hydraulics

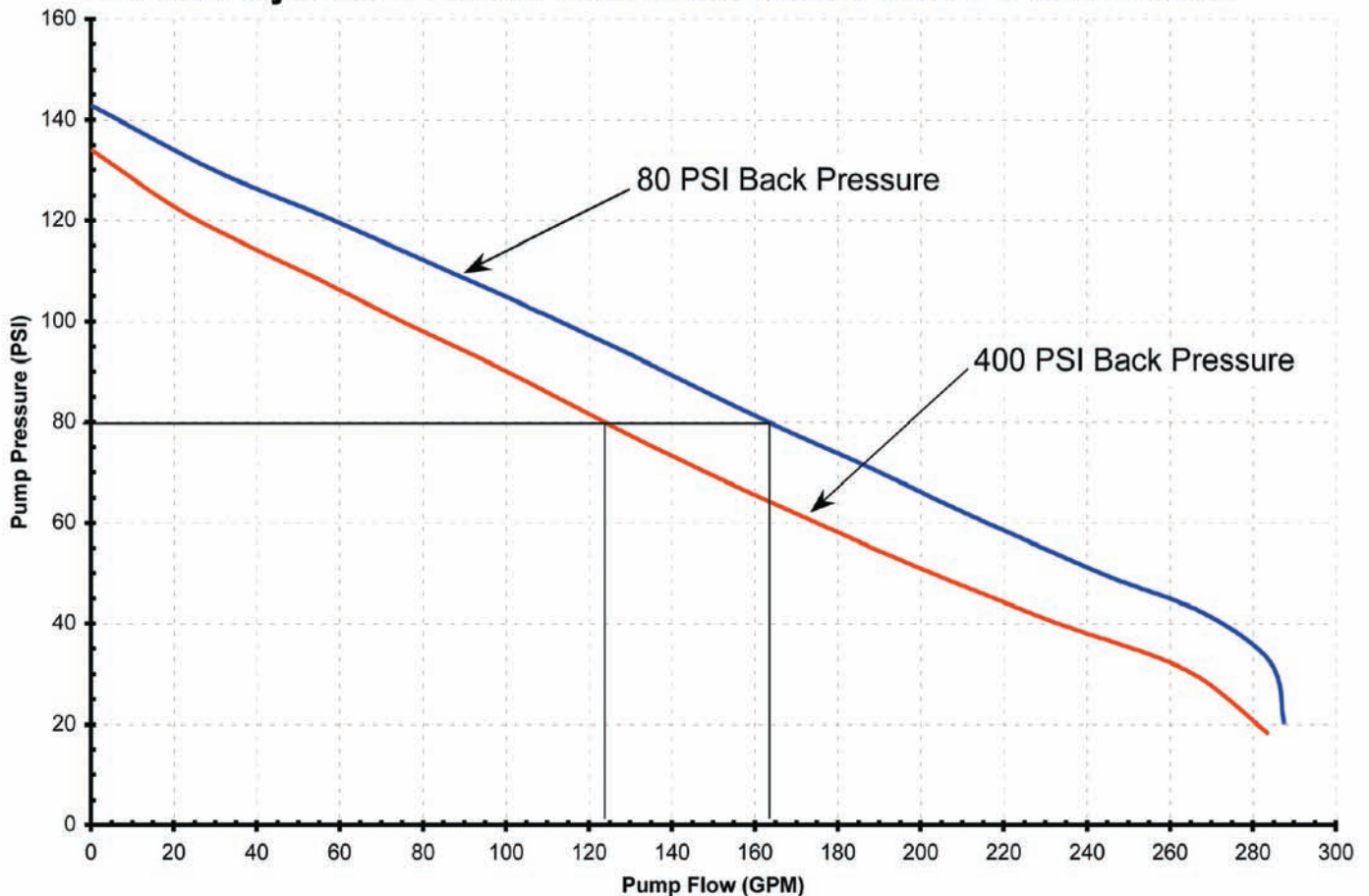
There are many tractors with a variety of hydraulic capabilities. How you get the most use of your tractor's power depends on your skill as a good operator and manager. Here are some tips to follow that will lead you to greater pump performance, and in the long run, will add to your success.



Rule #1 Minimize hydraulic motor back pressure in the return line hydraulic hose.

High hydraulic motor back pressure can rob performance from your Hypro pump. As you can see in the chart below, for the same spray pressure, there is a 40 gallon per minute loss in performance due to excessively high hydraulic back pressure in the return line of the spray pump's hydraulic hose. Those 40 gallons could be used to spray at faster ground speed, increase flow to agitation, or to reduce the required hydraulic flow necessary to do the job. Whatever your need is, reducing hydraulic back pressure saves you money!

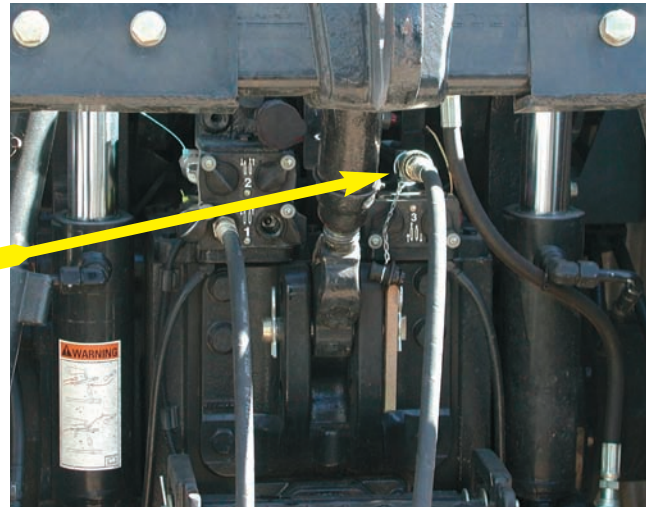
Effect of Hydraulic Back Pressure on 9306C-HM1C Performance



By reducing your motor's hydraulic back pressure, the amount of available energy to the hydraulic motor increases and that energy can be used for work. Here are some of the most common sources of high hydraulic motor back pressure.

1. Tractor Return Valve Block

A *free dump* return port is the best way to minimize return back pressure. This *free dump* return, bypasses the tractor valve block spool and greatly reduces hydraulic back pressure. *Free dump* return ports help to reduce the back pressure, but can vary for tractor models. A realistic back pressure goal is 50 – 150 PSI.

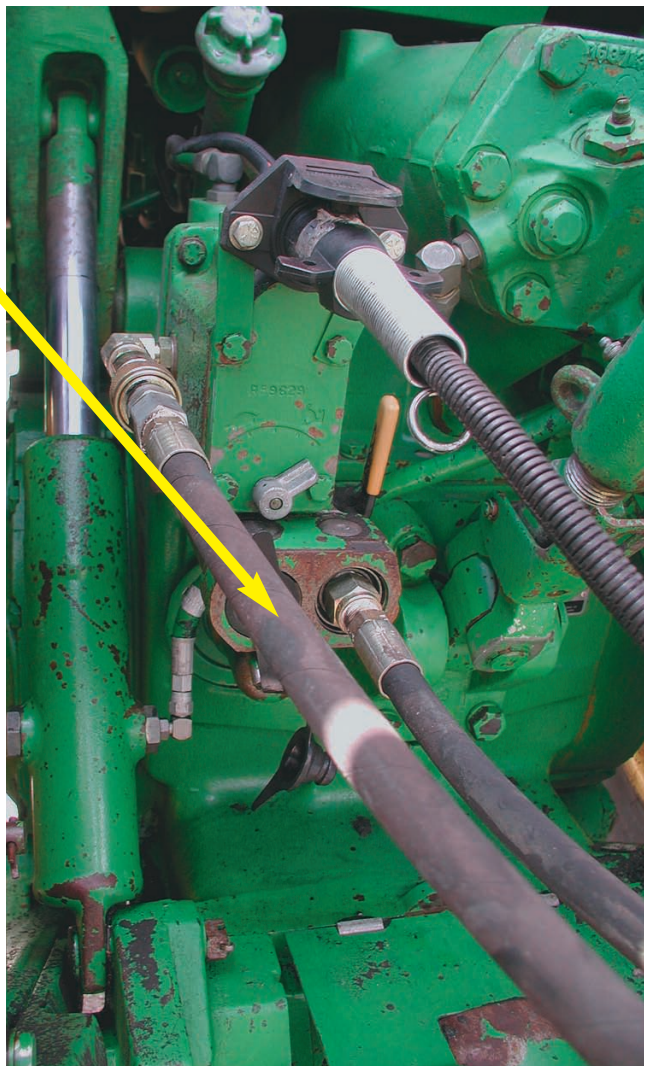


2. Quick Coupler Size

Modern tractors provide a free dump option and because this option is designed to reduce back pressure for constant operating hydraulic equipment, they usually increase the coupler size. By increasing its size, a larger cross-sectional area is provided for the hydraulic oil to flow through the coupler without greatly increasing the back pressure.

3. Return Hose Diameter

For hydraulic flows greater than 13 GPM, the standard 1/2" hose can be limiting in its capacity to carry higher hydraulic flows back to the tractor reservoir. Factors that create higher back pressures of a hose include hose diameter and hose length. If the pump is not located near the hitch, consider upsizing the hydraulic *hose size* to reduce motor hydraulic back pressure.



4. Tractor Hydraulic Filter Condition

Older tractors may feel the effect of neglect with their age. If you intend to get the most out of your tractor, check your maintenance records to be sure the hydraulic filter has been recently changed. The higher the hydraulic flow, the higher the pressure drop is across any restriction. This includes the filter. It is not uncommon to see a 200 PSI pressure drop across a dirty filter.

5. Secondary Circuits

Secondary circuits can be used for the spray pump hydraulic pressure supply, but free dump returns should always be used with them. Standard tractor secondary return ports are even more restrictive than primary return ports.

The best way to know your hydraulic oil back pressure is to measure it. Hypro provides a Hydraulic Test Kit (PN: 3430-0650) that can easily be inserted into the hydraulic circuit of the Hypro spray pump. You can instantly learn what your hydraulic back pressure is as well as the tractor's system pressure and hydraulic flow. This is a great diagnostic tool for those who need to improve their performance. Ask for this test kit at your sprayer dealer.



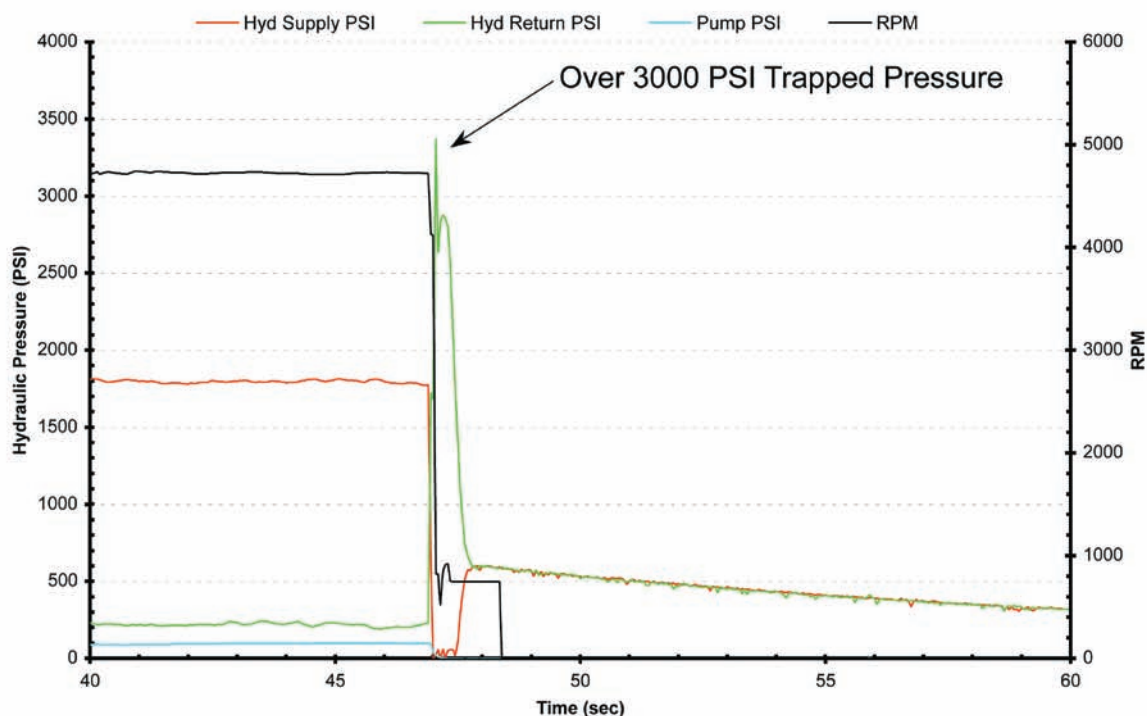
Rule #2 Know Where to Set the Bypass Screw

This Hypro hydraulic motor feature is intended solely for Open Center hydraulic systems. Follow directions for bypass screw adjustments in the owner manual. If your hydraulic system is a Closed Center pressure compensating or load sensing system, be sure bypass screw is turned in completely.

Rule #3 On/Off Operation

Whenever possible use the rate controller for On/Off control of your spray nozzles. Cycling the pump on and off does provide more opportunity to damage the hydraulic motor's oil seal, especially if the hydraulic return line is through the circuit spool valve. In the graph below, you can see that over 3000 PSI pressure is trapped in the motor until it slowly seeps down to zero PSI. That pressure is exerted directly against the hydraulic oil lip seal in the motor. Trapping high hydraulic oil pressure in the motor will lead to early seal failures.

Using a free dump will avoid hydraulic oil from having to go through the circuit spool valve and will alleviate the possibility of trapped pressure in the motor as well as lower the back pressure in the motor to increase its performance.



Selecting the Right Pump

Hypro offers several sizes as well as materials for its line of hydraulic motor-driven centrifugal pumps. Inlet port sizes from 1½" to 2" are available. Material options include Polypropylene, Cast Iron, and 316 Stainless Steel. Up to five different motor sizes are available for each combination of port size and construction material. The following is a listing of the nominal flow ranges for each motor size:

Motor	Hydraulic Flow Range (GPM)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GM1		■	■																					
HM2C				■	■	■	■	■																
HM4C					■	■	■	■	■															
HM1C									■	■	■	■	■	■										
HM5C													■	■	■	■	■	■						
HM3C																	■	■	■	■	■	■	■	■

The chart above has been used to create the selection guide contained in this document. Hydraulic system types, age of equipment, and levels of performance were also taken into consideration.

IMPORTANT: The tractor hydraulic system data contained in the following tables should be used only as a guide. Consult your tractor manufacturer for more detailed information or for assurance that any continuous duty equipment, such as hydraulic motor-driven centrifugal pumps, will not overheat your hydraulic system.

Hydraulic Pumps:

Today's tractors are equipped with either Constant Displacement or Variable Displacement Hydraulic Pumps. Constant Displacement Pumps put out a constant flow, regardless of pressure (until the relief valve bypasses the flow). The only way to vary the flow on this type of pump is to change engine speed. Variable Displacement Pumps will produce only the flow required by the implement until total pump output is reached. If less than total pump output is required, an automatic stroke control mechanism decreases the pump output to maintain a constant pressure and flow. The output varies according to demand.

Hydraulic Controls:

There are two types of hydraulic control or spool valves used on tractors today. They are named after the design of the spool valves themselves. One is called OPEN CENTER because in the neutral (or center) position, it is open to allow flow back to the hydraulic reservoir. Open Center Valves are used exclusively on Constant Displacement Pumps. The other valve type is called a CLOSED CENTER because in the neutral (or center) position, all hydraulic flow is stopped on that circuit. Closed Center Valves are used exclusively on Variable Displacement Pumps.

There are four basic positions for each type of spool valve. They are Raise, Neutral, Lower and Float (in order, from back to front). The names used for these positions vary somewhat between manufacturers, but the order of the positions do not.

To properly operate a hydraulic motor-driven centrifugal pump on a tractor hydraulic circuit, only the Lower and Float positions should be used. **Use Lower for "On" and Float for "Off."** The Float position is recommended for turning the motor off because it allows the remote circuit to flow in a continuous loop, allowing the motor to free wheel to a stop and also does not trap pressure in the circuit.

Both Open and Closed Center Valves trap oil on both sides of the remote circuit when in the Neutral position. Use of this position for "Off" will cause premature failure of the hydraulic motor for two reasons. One is that using Neutral to stop the motor will do so in a fraction of a second. With both lines of the circuit closed, the motor will be forced to stop instantly from as much as 6000 RPM. This can cause damage to the motor shaft, oil seal and gerotor. The other type of failure mode caused by using the Neutral position is oil seal failure. The Neutral position of the spool valve can trap in excess of 1000 PSI in the remote circuit. While Hypro's oil seals are designed to withstand some of these pressure spikes, they are not designed to withstand them indefinitely.

Selecting the Right Pump (continued)

The Raise position is not recommended for “On” because the valve must travel through the Neutral position to get to Float.

System Types:

There are three types of hydraulic systems used on tractors. One utilizes a constant displacement pump and is called an Open Center System because of the spool valve employed. The other two use a variable displacement pump and are known as Closed Center (Pressure Compensated) Systems or Closed Center Load Sensing Systems based on the type of spool valve and system operation.

Open Center systems, while having constant displacement pumps, do change flow rates with engine RPM. It is, therefore, necessary to make adjustment to the hydraulic-driven pump with tractor engine speed as close as possible to what it will be operating at in the field. Hydraulic flow on many Open Center systems decreases when power steering is in use or when other hydraulic circuits are in use (i.e. when raising or lowering booms); consequently so does centrifugal pump flow. Typically the largest motor possible is recommended for these types of systems.

Closed Center (Pressure Compensating) systems have a variable displacement pump which will deliver flow at the necessary rate to maintain a specified pressure. It is desirable to equip implements with a motor of a low flow range that will cause the pump to operate between 1800 and 2100 PSI. Selecting a motor that is too large to operate in this pressure range may cause the generation of excess heat in the hydraulic oil, causing damage to the tractor's transmission parts.

Closed Center Load Sensing systems are similar to pressure compensated systems, but are designed primarily for more efficient operation and the generation of less heat. They work on the principle of maintaining a constant pressure drop from the pump to the work port of the selector valve. Any variation in demand at the motor will cause a change in flow. The system senses this change in flow due to the change in pressure drop across the valve and causes the pump to compensate by varying the pump flow.

Hydraulic Plumbing:

Many tractor hydraulic systems route return lines through filters or other restrictive elements which can cause an increase in return circuit pressure. Hypro's hydraulic motor oil seals are designed to withstand 300 PSI continuous operation and up to 600 PSI intermittently. This is well within the range of nearly every tractor's return circuit pressure. However, whenever possible, it is recommended to utilize either a standard (or purchase an optional) low pressure return circuit. This will allow for less oil heat generation, lower horsepower consumption and longer oil seal life. Consult with your tractor manufacturer to see if your tractor is or can be equipped in this way.

The Return (or Tank) ports on Hypro hydraulic motors are equipped with an anti-reversing check valve. This is to prevent the motor from accidentally being operated backwards. Backward operation of the motor will cause almost immediate oil seal failure. **Do Not Remove Check Valve.**

HM2 and HM4 models of Hypro's hydraulic motor-driven centrifugal pumps can be equipped with a metering orifice in the inlet port. The orifice is intended to be used on older model tractors with Closed Center systems that do not have flow control valves. Consult with your tractor manufacturer to determine if you have this type of system and require an orifice. Further information is available with your pump's operating manual.

Hypro hydraulic motors are equipped with a bypass adjustment screw. These are only to be adjusted when used on Open Center hydraulic systems. Please see the installation instructions included with the pump for directions on how to use the bypass. Closed Center hydraulic systems do not require any bypass. Be sure that the bypass adjustment is screwed all the way in and the lock nut is tight when operating on Closed Center systems.

Installation Basics:

Open Center Systems

1. Do not use an orifice in the pressure adapter port.
2. Start the tractor. Leave the selector valve in neutral and achieve operation RPM and system temperature.
3. Open the bypass screw 4 turns.
4. With the pump inlet flooded, move the selector valve to the Lower position and allow hydraulic flow to the motor.
5. Adjust the bypass screw closed until the desired spraying pressure is achieved. Account for agitation flow.
6. Tighten the lock nut on the bypass screw.

Closed Center System-Pressure Compensating*

1. Install the #1 orifice in the pressure adapter port (HM2 and HM4 only).
2. Start the tractor. Leave the selector valve in neutral and achieve operating RPM and system temperature.
3. Close and lock the bypass screw.
4. With the pump inlet flooded, move the selector valve to the Lower position and allow hydraulic flow to the motor.
5. If spraying pressure is too low, replace the #1 orifice with the #2 orifice. Account for agitation flow.
6. If spraying pressure is still too low, replace the #2 orifice with the #3 orifice.
7. If spraying pressure is still too low, remove the orifice completely.

* Some closed center systems are equipped with flow controls (Tortoise/Hare), such as John Deere. Metering orifices are unnecessary in these systems. Follow the operation instructions for **closed center load sensing systems**.

Closed Center Load Sensing

1. Do not use an orifice in the pressure adapter port.
2. Start the tractor. Leave the selector valve in neutral and achieve operating RPM and system temperature.
3. Adjust the tractor's hydraulic flow control (Tortoise/Hare) to its lowest setting.
4. Close and lock the bypass screw.
5. With the pump inlet flooded, move the selector valve to the Lower position and allow hydraulic flow to the motor.
6. Adjust the hydraulic flow control valve (Tortoise/Hare), until the desired spraying pressure is achieved. Account for agitation flow.

IMPORTANT!

All hydraulic connectors on motor hoses and tractors must be clean. Any foreign particles can severely damage the motor and your hydraulic system. Know your hydraulic system! Hypro hydraulic motors will operate at a maximum of 2000 PSI continuously and 2200 PSI intermittently. Exceeding these pressures may seriously damage the motor.



When shutting off the pump, move the selector to the **"FLOAT"** position to allow the centrifugal pump to come to a stop gradually.



Make sure pump inlet is flooded prior to allowing hydraulic flow to the motor.



The following specifications are published by the tractor manufacturers. Actual hydraulic conditions at the auxillary ports are expected to vary.

CODE KEY

- (1) Best recommendation for high performance applications.
- (2) Recommended for standard applications.
- (3) Will also work.
- (LS) Load Sensing Hydraulic System. On all closed center, load sensing hydraulic systems, run hydraulic motor on priority circuit.

Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
AGCO TRACTOR												
DT160	CLOSED (LS)	2900	29/39	1			2	1	2		1	
DT180	CLOSED (LS)	2900	29/39	1			2	1	2		1	
DT200	CLOSED (LS)	2900	29/39	1			2	1	2		1	
DT220	CLOSED (LS)	2900	39	1			2	1	2		1	
DT225	CLOSED (LS)	2900	29/39	1			2	1	2		1	
DT240	CLOSED (LS)	2900	39	1			2	1	2		1	
GT45	OPEN	2750	12.6	2			3		2			
GT55	OPEN	2750	12.6	2			3		2			
GT65	OPEN	2750	12.6	2			3		2			
GT75	OPEN	2750	12.6	2			3		2			
LT70	OPEN	3045	18			2		1		2	1	
LT75	OPEN	3050	23/15	/3		2/	/3	/2		2/	/2	
LT85	OPEN	3045	18			2		1		2	1	
LT90	OPEN	3050	23/15	/3		2/	/3	/2		2/	/2	
RT95	CLOSED (LS)	2900	28	1			2	1	2		1	
RT100CVT	CLOSED (LS)	2900	29	1			2	1	2		1	
RT115	CLOSED (LS)	2900	28	1			2	1	2		1	
RT120CVT	CLOSED (LS)	2900	29	1			2	1	2		1	
RT130	CLOSED (LS)	2900	29/39	1			2	1	2		1	
RT135CVT	CLOSED (LS)	2900	29	1			2	1	2		1	
RT145	CLOSED (LS)	2900	29/39	1			2	1	2		1	

AGCO ALLIS											
4650	OPEN (a)	2610	8.8	2			2				
4660	OPEN (a)	2610	10.3	2			3		2		
5650	OPEN (a)	2750	11	2			3		2		
5660	OPEN (a)	2750	11	2			3		2		
5670	OPEN (a)	2610	15.2	3			3	2	3		2
5680	OPEN (a)	2610	14.5	1			3	2	1		2
6670	OPEN (a)	2610	15.2	3				2	3		2
6680	OPEN (a)	2610	17.1	3		2		1	3		2
6690	OPEN (a)	2610	17.1	3		2		1	3		2
7600	OPEN (a)	2610	24.7			2				2	
7630	OPEN (a)	2610	25.7			2				2	
7650	OPEN (a)	2610	24.7			2				2	
8360	CLOSED (LS)	2500	27	1			2	1	2		1
8425	CLOSED (LS)	2500	27	1			2	1	2		1
8610	OPEN (a)	2610	25			2				2	
8630	OPEN (a)	2610	25			2				2	
8745	OPEN	3045	25.8			2				2	
8765	OPEN	3045	25.8			2				2	
8775	CLOSED (LS)	2900	27.7	1			2	1	2		1
8785	CLOSED (LS)	2900	27.7	1			2	1	2		1
9435	CLOSED (LS)	2900	27	1			2	1	2		1
9455	CLOSED (LS)	2900	27	1			2	1	2		1
9630	CLOSED	2250	24	1			2		2		
9635	CLOSED	2250	22	1			2		2		
9650	CLOSED	2250	24	1			2		2		
9655	CLOSED	2250	22	1			2		2		
9670	CLOSED	2500	23	1			2	1	2		1
9675	CLOSED	2500	22	1			2	1	2		1
9690	CLOSED	2500	23	1			2	1	2		1
9695	CLOSED	2500	22	1			2	1	2		1
9735	CLOSED (LS)	2900	29/39	1			2	1	2		1
9745	CLOSED (LS)	2900	29/39	1			2	1	2		1
9755	CLOSED (LS)	2900	29/39	1			2	1	2		1
9765	CLOSED (LS)	2900	29/39	1			2	1	2		1
9775	CLOSED (LS)	2900	29/39	1			2	1	2		1
9785	CLOSED (LS)	2900	29/39	1			2	1	2		1
9815	CLOSED	2750	22	1			2	1	2		1

(a) Optional auxiliary hydraulic reservoir is recommended to prevent overheating.

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
ALLIS CHALMERS												
160	OPEN	2300	6.7		3		2					
170-G	OPEN	2000	10	2			3		2			
170-D	OPEN	2000	10	2			3		2			
175 CROP HUSTLER	OPEN	2000	11	2			3		2			
175-G	OPEN	2400	11	2			3		2			
175-D	OPEN	2400	11	2			3		2			
180-G	OPEN	2000	10	2			3		2			
180-D	OPEN	2000	10	2			3		2			
185	OPEN	2000	10	2			3		2			
185 AFTER 1972	OPEN	2000	11	2			3		2			
185-D	OPEN	2400	11	2			3		2			
190-D	OPEN	2000	12.75	2			3		2			
190-GXT	OPEN	2000	12.75	2			3		2			
190-DXT	OPEN	2000	12.75	2			3		2			
200-D	OPEN	2400	13.2	2			3		2			
210	OPEN	2000	18			2		1		2	1	
210 AFTER 1972	OPEN	2400	18			2				2		
220	OPEN	2000	18			2				2		
220 AFTER 1972	OPEN	2400	18			2				2		
440	OPEN	2000	20			2				2		
5015	OPEN	1990	5.4		2		3					
5020	OPEN	1900	5.4		2		3					
5030	OPEN	1900	5.4		2		3					
5040	OPEN	2133	5.75		2		3					
5040 AFTER 1978	OPEN	2133	6.23		2		3					
5045	OPEN	2770	6.25		2		3					
5050	OPEN	2133	6.23		2		3					
5050 AFTER 1978	OPEN	2133	6.47		2		3					
6040	OPEN	2300	7		3		2					
6060	OPEN	2300	10	2			3		2			
6070	OPEN	2300	10	2			3		2			
6080	OPEN	2300	10	2			3		2			
6140	OPEN	2000	10	2			3		2			
7000	OPEN	2400	5.88		2		3					
7010-PD	CLOSED (LS)	2500	17	1			2	1	2		1	
7010-PS	CLOSED (LS)	2500	17	1			2	1	2		1	
7020	CLOSED (LS)	2500	17	1			2	1	2		1	
7020-PS	CLOSED (LS)	2500	17	1			2	1	2		1	
7030	CLOSED (LS)	2500	17	1			2	1	2		1	
7040	CLOSED (LS)	2500	17	1			2	1	2		1	
7040-PS	CLOSED (LS)	2500	17	1			2	1	2		1	
7045	CLOSED (LS)	2500	17	1			2	1	2		1	
7045-PS	CLOSED (LS)	2500	17	1			2	1	2		1	
7050	CLOSED (LS)	2500	17	1			2	1	2		1	
7060	CLOSED (LS)	2500	17	1			2	1	2		1	
7060-PS	CLOSED (LS)	2500	17	1			2	1	2		1	
7080	CLOSED (LS)	2500	18	1			2	1	2		1	
7580	CLOSED (LS)	2500	18	1			2	1	2		1	
8010	CLOSED (LS)	2500	17	1			2	1	2		1	
8030	CLOSED (LS)	2500	17	1			2	1	2		1	
8050	CLOSED (LS)	2500	17	1			2	1	2		1	
8070	CLOSED (LS)	2500	17	1			2	1	2		1	
8550	CLOSED (LS)	2500	18	1			2	1	2		1	
4W220	CLOSED (LS)	2500	23	1			2	1	2		1	
4W305	CLOSED (LS)	2500	21	1			2	1	2		1	
4W306	CLOSED (LS)	2500	23	1			2	1	2		1	
BELARUS												
400 & 420	OPEN	2050	11.8	2			3		2			
505 & 525	OPEN	2800	11.8	2			3		2			
530 & 532	OPEN	2525	11.8	2			3		2			
570 & 572	OPEN	2800	11.8	2			3		2			
615	OPEN	2550	11.8	2			3		2			
800, 802, 805	OPEN	2525	11.8	2			3		2			
820, 822, 825, 825R	OPEN	2525	11.8	2			3		2			

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				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
BELARUS (continued)												
900,902,905	OPEN	2525	11.8	2			3			2		
920,922,925	OPEN	2525	11.8	2			3			2		
1025	OPEN	2525	11.9	2			3			2		
5011, 5011L	OPEN	2525	11.9	2			3			2		
5045, 5045L	OPEN	2525	11.9	2			3			2		
5111, 5145	OPEN	2525	10.9	2			3			2		
6011, 6045	OPEN	2525	11.8	2			3			2		
6311, 6345	OPEN	2525	11.8	2			3			2		
1770	OPEN	2610	28.2			2					2	
7010	OPEN	2000	17.8	1		2		1		2	2	
7100	OPEN	2000	20			2		1		2	1	
7100M	OPEN	2000	28			2				2		
8011, 8011L, 8021	OPEN	2525	12.2	2			3			2		
8311, 8345	OPEN	2525	12.2	2			3			2		
9011, 9011L, 9021, 9045	OPEN	2525	11.8	2			3			2		
9311, 9345	OPEN	2525	11.8	2			3			2		

CASE/DAVID BROWN											
780	OPEN	2000	7.3			3		2			
880	OPEN	2000	7.3			3		2			
885	OPEN	2500 (a)	7.3			3		2			
990	OPEN	2500 (a)	7.3			3		2			
995	OPEN	2500 (a)	7.3			3		2			
1200	OPEN	2000	6.9 (b)			3		2			
1210	OPEN	2500 (a)	6.9 (b)			3		2			
1212	OPEN	2500 (a)	6.9 (b)			3		2			
1410	OPEN	2500	7.3 (b)			3		2			
1410 AFTER 1977	OPEN	2500	15.5			3		2	3		2
1412	OPEN	2500	7.3 (b)			3		2			
3800	OPEN	2000	7.3			3		2			
4600	OPEN	2000	7.3			3		2			

(a) All 1972 model tractors and earlier have a maximum pressure of 2000 PSI.

(b) Maximum flow capacity is 15.5 GPM on some models equipped with larger hydraulic pump. On these models, the HM5C motor is recommended for both the 9303C and 9304C pumps.

J. I. CASE											
470	OPEN	1550	8.6			3		2			
570	OPEN	1550	9.3	3				2			
770	OPEN	1550	14-16	3			3	2	3		2
870	OPEN	1550	14-16	3			3	2	3		2
970	OPEN	1900	14-16	3			3	2	3		2
1070	OPEN	2100	14-16	3			3	2	3		2
1090	OPEN	2250	14-16	3			3	2	3		2
1170	OPEN	2250	14-16	3			3	2	3		2
1175	OPEN	2250	14-16	3			3	2	3		2
1190	OPEN	2200	7.25			3		2			
1194	OPEN	2200	7.25			3		2			
1270	OPEN	2200	20				2			2	
1270 AFTER 1973	OPEN	2050	20				2			2	
1290	OPEN	2200	7.25			3		2			
1294	OPEN	2200	7.25			3		2			
1370	OPEN	2200	20				2			2	
1370 AFTER 1973	OPEN	2050	20				2			2	
1390	OPEN	2200	15.3	3			3	2	3		2
1394	OPEN	2200	15.3	3			3	2	3		2
1410	OPEN	2500	15.5	3			3	2	3		2
1470	OPEN	2000	16	3			3	2	3		2
1490	OPEN	2200	15.3	3			3	2	3		2
1494	OPEN	2200	15.3	3			3	2	3		2
1570	OPEN	2200	20				2			2	
1594	OPEN	2200	20.1				2			2	
1690	OPEN	2200	20.1				2			2	
1896	CLOSED (LS)	2250	22	1			2		2		
2090	CLOSED (LS)	2250	22	1			2		2		
2094	CLOSED (LS)	2250	23	1			2		2		

CODE KEY

(1) Best recommendation for high performance applications.

(2) Recommended for standard applications.

(3) Will also work.

(LS) Load Sensing Hydraulic System. On all closed center, load sensing hydraulic systems, run hydraulic motor on priority circuit.

Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
J. I. CASE cont.												
2096	CLOSED (LS)	2250	22	1			2			2		
2290	CLOSED (LS)	2250	22	1			2			2		
2294	CLOSED (LS)	2250	22	1			2			2		
2390	CLOSED (LS)	2250	24	1			2			2		
2394	CLOSED (LS)	2250	24	1			2			2		
2470	OPEN	2050	17			3		2			3	2
2590	CLOSED (LS)	2250	24	1			2			2		
2590 AFTER 1979	CLOSED (LS)	2250	23	1			2			2		
2594	CLOSED (LS)	2250	24	1			2			2		
2670	OPEN	2050	17			3		2				2
2870	OPEN	2050	22			2					2	
3294	CLOSED (LS)	2250	23	1			2			2		
3394	CLOSED (LS)	2250	17	1			2			2		
3594	CLOSED (LS)	2250	17	1			2			2		
4490	CLOSED (LS)	2250	24	1			2			2		
4494	CLOSED (LS)	2250	24	1			2			2		
4690	CLOSED (LS)	2250	24	1			2			2		
4694	CLOSED (LS)	2250	24	1			2			2		
4890	CLOSED (LS)	2250	24	1			2			2		
4894	CLOSED (LS)	2250	24	1			2			2		
4994	CLOSED (LS)	2250	30	1			2			2		

CASE IH													
235	OPEN	1920	3.4			NOTHING RECOMMENDED							
245	OPEN	1994	4.6/5.9			2							
255	OPEN	1994	4.8/6.1			2							
265	OPEN	2175	5.7			2							
275	OPEN	2175	7.3			3		2					
350B	OPEN	1650	14	1				3	2	1		2	
385	OPEN	2500	11.3	2				3		2			
395	OPEN	2500	11.3(a)/13.4(b)	2				3		2			
450B	OPEN	NA	21				2				2		
450C	OPEN	NA	22				2				2		
485	OPEN	2500	11.3	2				3		2			
495	OPEN	2500	12.6(a)/13.4(b)	2				3		2			
585	OPEN	2500	12.6	2				3		2			
595	OPEN	2500	12.1(a)/14.3(b)	2 (a)				3	2 (b)	2 (a)		2 (b)	
685	OPEN	2500	12.7(a)/15.1(b)	2 (a)				3	2 (b)	2 (a)		2 (b)	
695	OPEN	2500	15.8(a)/18.1(b)				2(b)	3(a)	2(a)1(b)		2(b)	2(a)1(b)	
850C	OPEN	NA	21				2				2		
850D	OPEN	NA	31				2				2		
885	OPEN	NA	12.7(a)/15.7(b)	2 (a)				3	2 (b)	2 (a)		2 (b)	
895	OPEN	2500	12.8(a)/15.1(b)	2 (a)				3	2 (b)	2 (a)		2 (b)	
995	OPEN	2500	15.8(a)/18.1(b)				2(b)	3(a)	2(a)1(b)		2(b)	2(a)1(b)	
1120	OPEN	2175	5.4				2						
1130	OPEN	2175	7.2				3						
1140	OPEN	2175	7.2				3						
1394	OPEN	2300	15.3	3				3	2	3		2	
1494	OPEN	2300	15.3	3				3	2	3		2	
1594	OPEN	2300	20.1				2				2		
1896	CLOSED (LS)	2250	23	1				2		2			
2096	CLOSED (LS)	2250	23	1				2		2			
2130	OPEN	2650	6.8(a)/10.5(b)	2 (b)		3(a)		2(a)3(b)		2 (b)			
2140	OPEN	2650	6.8(a)/10.5(b)	2 (b)		3(a)		2(a)3(b)		2 (b)			
2150	OPEN	2650	6.8(a)/10.5(b)	2 (b)		3(a)		2(a)3(b)		2 (b)			
2294	CLOSED (LS)	2250	23	1				2		2			
2394	CLOSED (LS)	2250	25	1				2		2			
2594	CLOSED (LS)	2250	25	1				2		2			
3220	OPEN	2500	14.7-16.9	3(a)					2	3(a)		2	
3230	OPEN	2500	15.3-17.7	3(a)				3(a)	2	3(a)		2	
4210	OPEN	2500	16.1-18.4						2			2	
4230	OPEN	2500	16.1-18.4						2			2	
4240	OPEN	2500	16.1-18.4						2			2	
4494	CLOSED (LS)	2250	24	1				2		2			
4694	CLOSED (LS)	2250	24	1				2		2			

CODE KEY

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- (3) Will also work.
- (LS) Load Sensing Hydraulic System. On all closed center, load sensing hydraulic systems, run hydraulic motor on priority circuit.

Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL										
				All 9302 – 9303					All 9304 – 9306					
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C			
CASE IH cont.														
4894	CLOSED (LS)	2250	24	1			2			2				
4994	CLOSED (LS)	2650	28	1			2	1		2				1
5120	CLOSED (LS)	2750	17	1			2	1		2				1
5130	CLOSED (LS)	2750	17	1			2	1		2				1
5140	CLOSED (LS)	2750	17	1			2	1		2				1
5220	CLOSED (LS)	2300	20.1	1			2			2				
5230	CLOSED (LS)	2300	20.1	1			2			2				
5240	CLOSED (LS)	2300	20.1	1			2			2				
5250	CLOSED (LS)	2300	20.1	1			2			2				
7110	CLOSED (LS)	2300	29	1			2			2				
7120	CLOSED (LS)	2300	29	1			2			2				
7130	CLOSED (LS)	2300	29	1			2			2				
7140	CLOSED (LS)	2300	29	1			2			2				
7150	CLOSED (LS)	2300	29	1			2			2				
7210	CLOSED (LS)	2300	22	1			2			2				
7220	CLOSED (LS)	2300	22	1			2			2				
7230	CLOSED (LS)	2300	22	1			2			2				
7240	CLOSED (LS)	2300	22	1			2			2				
7250	CLOSED (LS)	2300	22	1			2			2				
8910	CLOSED (LS)	2800	27	1			2	1		2				1
8920	CLOSED (LS)	2800	27	1			2	1		2				1
8930	CLOSED (LS)	2800	27	1			2	1		2				1
8940	CLOSED (LS)	2800	27	1			2	1		2				1
8950	CLOSED (LS)	2800	27	1			2	1		2				1
9110 PUMA	CLOSED (LS)	2500	27	1			2	1		2				1
9130 WILDCAT	CLOSED (LS)	2500	27	1			2	1		2				1
9150 COUGAR	CLOSED (LS)	2500	27	1			2	1		2				1
9170	CLOSED (LS)	2500	27	1			2	1		2				1
9180	CLOSED (LS)	2500	27	1			2	1		2				1
9210	CLOSED (LS)	2500	27	1			2	1		2				1
9230	CLOSED (LS)	2500	27	1			2	1		2				1
9240	CLOSED (LS)	2500	27	1			2	1		2				1
9250	CLOSED (LS)	2500	27	1			2	1		2				1
9260	CLOSED (LS)	2500	27	1			2	1		2				1
9270	CLOSED (LS)	2500	27	1			2	1		2				1
9280	CLOSED (LS)	2500	27	1			2	1		2				1
9310	CLOSED (LS)	2900	28	1			2	1		2				1
9330	CLOSED (LS)	2900	28	1			2	1		2				1
9350	CLOSED (LS)	2900	30	1			2	1		2				1
9370	CLOSED (LS)	2900	30	1			2	1		2				1
9380	CLOSED (LS)	2900	30	1			2	1		2				1
9390	CLOSED (LS)	2900	30/60	1			2	1		2				1
C50,CX50	OPEN	2500	13	2			3			2				
C60,CX60	OPEN	2500	16	3						2	3			2
C70,CX70	OPEN	2500	16	3						2	3			2
C80,CX80	OPEN	2500	16	3						2	3			2
C90,CX90	OPEN	2500	16	3						2	3			2
C100,CX100	OPEN	2500	16	3						2	3			2
CVX1135	CLOSED (LS)	2750	28	1			2	1		2				1
CVX1145	CLOSED (LS)	2750	28	1			2	1		2				1
CVX1155	CLOSED (LS)	2750	28	1			2	1		2				1
CVX1170	CLOSED (LS)	2750	34.3	1			2	1		2				1
CVX1190	CLOSED (LS)	2750	34.3	1			2	1		2				1
QUADTRAC	CLOSED (LS)	2900	30	1			2	1		2				1
MX80,MX80C	CLOSED (LS)	2950	25	1			2	1		2				1
MX90,MX90C	CLOSED (LS)	2950	25	1			2	1		2				1
MX100,MX100C	CLOSED (LS)	2950	25	1			2	1		2				1
MX110	CLOSED (LS)	2950	25	1			2	1		2				1
MX120	CLOSED (LS)	2950	25	1			2	1		2				1
MX135	CLOSED (LS)	2950	25	1			2	1		2				1
MX150	CLOSED (LS)	2950	28	1			2	1		2				1
MX170	CLOSED (LS)	2950	28	1			2	1		2				1
MX180	CLOSED (LS)	2900	30/44	1			2	1		2				1
MX200	CLOSED (LS)	2900	30/44	1			2	1		2				1
MX210	CLOSED (LS)	2930	38.6/53.1	1			2	1		2				1
MX220	CLOSED (LS)	2900	30/44	1			2	1		2				1

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
CASE IH cont.												
MX230	CLOSED (LS)	2930	38.6/53.1	1			2	1	2		1	
MX240	CLOSED (LS)	2900	30/44	1			2	1	2		1	
MX255	CLOSED (LS)	2930	38.6/53.1	1			2	1	2		1	
MX270	CLOSED (LS)	2900	30/44	1			2	1	2		1	
MX285	CLOSED (LS)	2930	38.6/53.1	1			2	1	2		1	
MXM120	CLOSED (LS)	2750	28	1			2	1	2		1	
MXM130	CLOSED (LS)	2750	28	1			2	1	2		1	
MXM140	CLOSED (LS)	2750	28	1			2	1	2		1	
MXM150	CLOSED (LS)	2750	28	1			2	1	2		1	
MXM155	CLOSED (LS)	2750	28	1			2	1	2		1	
MXM175	CLOSED (LS)	2750	31.7	1			2	1	2		1	
MXM190	CLOSED (LS)	2750	31.7	1			2	1	2		1	
MXU100	CLOSED (LS)	3045	19.8/26.5	1			2	1	2		1	
MXU110	CLOSED (LS)	3045	19.8/26.5	1			2	1	2		1	
MXU125	CLOSED (LS)	3045	19.8/26.5	1			2	1	2		1	
MXU135	CLOSED (LS)	3045	19.8/26.5	1			2	1	2		1	

(a) Standard Hydraulic System

(b) Optional Hydraulic System

CATERPILLAR											
35	CLOSED (LS)	2500	24	1			2	1	2		1
45	CLOSED (LS)	2500	24	1			2	1	2		1
55	CLOSED (LS)	2750/2900	24/31.2	1			2	1	2		1
65B	CLOSED (LS)	2500	26 (a)	1			2	1	2		1
65C	CLOSED (LS)	2550	27/35	1			2	1	2		1
65D	CLOSED (LS)	2750/2900	27.5	1			2	1	2		1
65E	CLOSED (LS)	2900	30	1			2	1	2		1
70B-70C	CLOSED (LS)	2550	35	1			2	1	2		1
75B	CLOSED (LS)	2550	35 (a)	1			2	1	2		1
75C	CLOSED (LS)	2550	27/35	1			2	1	2		1
75D	CLOSED (LS)	2750	27.5	1			2	1	2		1
75E	CLOSED (LS)	2900	30	1			2	1	2		1
85C	CLOSED (LS)	2550	27/35	1			2	1	2		1
85D	CLOSED (LS)	2550	35	1			2	1	2		1
85E	CLOSED (LS)	2900	30	1			2	1	2		1
95E	CLOSED (LS)	2900	30	1			2	1	2		1

(a) Hydraulic oil coolers are not standard on these models. An oil cooler is required for continuous duty sprayer pump operation.

CHALLENGER											
MT445	OPEN	3046	10	2			3		2		
MT455	OPEN	3046	10	2			3		2		
MT465	OPEN	3046	10	2			3		2		
MT525B	CLOSED (LS)	2900	29	1			2	1	2		1
MT535	OPEN	3046	10	2			3		2		
MT535B	CLOSED (LS)	2900	29	1			2	1	2		1
MT545	BOTH (a)	2900	15/27.7	/1			/2	2/1	/2		2/1
MT545B	CLOSED (LS)	2900	29	1			2	1	2		1
MT555B	CLOSED (LS)	2900	29	1			2	1	2		1
MT565	CLOSED (LS)	2900	29/39	1			2	1	2		1
MT565B	CLOSED (LS)	2900	29	1			2	1	2		1
MT635	CLOSED (LS)	2900	29/39	1			2	1	2		1
MT635B	CLOSED (LS)	2900	29/39	1			2	1	2		1
MT645	CLOSED (LS)	2900	29/39	1			2	1	2		1
MT645B	CLOSED (LS)	2900	29/39	1			2	1	2		1
MT655	CLOSED (LS)	2900	29/39	1			2	1	2		1
MT655B	CLOSED (LS)	2900	29/39	1			2	1	2		1
MT665	CLOSED (LS)	2900	29/39	1			2	1	2		1
MT665B	CLOSED (LS)	2900	29/39	1			2	1	2		1
MT735	CLOSED (LS)	2900	43.5	1			2	1	2		1
MT745	CLOSED (LS)	2900	43.5	1			2	1	2		1
MT745B	CLOSED (LS)	2900	43.5	1			2	1	2		1
MT755	CLOSED (LS)	2900	43.5	1			2	1	2		1
MT755B	CLOSED (LS)	2900	43.5	1			2	1	2		1
MT765	CLOSED (LS)	2900	43.5	1			2	1	2		1

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
CHALLENGER cont.												
MT765B	CLOSED (LS)	2900	43.2	1			2	1	2		1	
MT835	CLOSED (LS)	2900	43.5/59	1			2	1	2		1	
MT835B	CLOSED (LS)	2900	43.5/59	1			2	1	2		1	
MT845	CLOSED (LS)	2900	43.5/59	1			2	1	2		1	
MT845B	CLOSED (LS)	2900	43.5/59	1			2	1	2		1	
MT855	CLOSED (LS)	2900	43.5/59	1			2	1	2		1	
MT855B	CLOSED (LS)	2900	43.5/59	1			2	1	2		1	
MT865	CLOSED (LS)	2900	43.5/59	1			2	1	2		1	
MT865B	CLOSED (LS)	2900	43.5/59	1			2	1	2		1	
MT875B	CLOSED (LS)	2900	43.5/59	1			2	1	2		1	

*On all Challenger hydraulic systems, consult your tractor dealer for special plumbing instructions.

Watch hydraulic temperature closely when using continuous duty equipment, such as hydraulic motors, to prevent overheating of the hydraulic system.

(a) Consult Challenger to determine which type of hydraulic system this tractor has and what method of use for regulating oil flow.

DEUTZ											
D3006	OPEN	2490	7.2		3		2				
D4006	OPEN	2490	6.4		2		3				
D4006A	OPEN	2490	6.4		2		3				
D4057	OPEN	2537	10.6	2			3		2		
D4057A	OPEN	2537	10.6	2			3		2		
D4506	OPEN	2485	9.2	3			2		3		
D4506A	OPEN	2485	9.2	3			2		3		
D4507	OPEN	2537	10.6	2			3		2		
D4507A	OPEN	2537	10.6	2			3		2		
D5206	OPEN	2572	7.2		3		2				
D5207	OPEN	2500	9	3			2		3		
D5207A	OPEN	2537	11	2			3		2		
D5506	OPEN	2490	9.2	3			2		3		
D6006	OPEN	2490	9.2	3			2		3		
D6006A	OPEN	2490	9.2	3			2		3		
D6007 AFTER 1974	OPEN	2840	9.33	3			2		3		
D6206	OPEN	2485	7.5		3		2				
D6206A	OPEN	2485	9.2	3			2		3		
D6207	OPEN	2537	11	2			3		2		
D6207A	OPEN	2537	11	2			3		2		
D6507	OPEN	2500	9.7	2			3		2		
D6507C	OPEN	2500	9.7	2			3		2		
D6806	OPEN	2940	9.2	3			2		3		
D6806A	OPEN	2940	9.2	3			2		3		
D7007	OPEN	2500	10.6	2			3		2		
D7206	OPEN	2940	9.2	3			2		3		
D7206A	OPEN	2940	9.2	3			2		3		
D7807	OPEN	2500	11	2			3		2		
D7807C	OPEN	2500	11	2			3		2		
D8006	OPEN	2485	8.6	3			2		3		
D8006 AFTER 1977	OPEN	2485	9.5	2			1		2		
D8006A	OPEN	2485	8.6	3			2		3		
D8006A AFTER 1977	OPEN	2485	9.5	2			1		2		
D9006	OPEN	2490	11.3	2			3		2		
D9006A	OPEN	2490	11.3	2			3		2		
D10006	OPEN	2485	8.6	3			2		3		
D10006 AFTER 1977	OPEN	2485	10.5	2			3		2		
D10006A	OPEN	2485	10.4	2			3		2		
D10006A AFTER 1977	OPEN	2572	10.4	2			3		2		
D13006	OPEN	2485	10.8	2			3		2		
D13006 AFTER 1978	OPEN	2485	11.5	2			3		2		
D13006A	OPEN	2485	10.9	2			1				
D13006A AFTER 1978	OPEN	2485	9.5	2			1		2		
DX3.10	OPEN	2538	11.6	2			3		2		
DX3.1A	OPEN	2538	11.6	2			3		2		
DX3.30	OPEN	2538	13.5	1		3		2	1		2
DX3.30A	OPEN	2538	13.5	1		3		2	1		2
DX3.50	OPEN	2538	13.5	1		3		2	1		2
DX3.50A	OPEN	2538	13.5	1		3		2	1		2

CODE KEY

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- (2) Recommended for standard applications.
- (3) Will also work.

(LS) Load Sensing Hydraulic System. On all closed center, load sensing hydraulic systems, run hydraulic motor on priority circuit.

Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
DEUTZ cont.												
DX3.70	OPEN	2538	17.7			2		1		2	1	
DX3.70A	OPEN	2538	17.7			2		1		2	1	
DX3.90	OPEN	2538	17.7			2		1		2	1	
DX3.90A	OPEN	2538	17.7			2		1		2	1	
DX4.70	OPEN	2538	19.5			2				2		
DX4.70A	OPEN	2538	19.5			2				2		
DX6.30	OPEN	2538	24.8			2				2		
DX6.30A	OPEN	2538	24.8			2				2		
DX6.50	OPEN	2538	24			2				2		
DX6.50A	OPEN	2538	24			2				2		
DX7.10	OPEN	2538	27.9			2				2		
DX7.10A	OPEN	2538	27.9			2				2		
DX90	OPEN	2485	14.7	1			3	2	1		2	
DX90A	OPEN	2538	14.7	1			3	2	1		2	
DX110	OPEN	2485	14.7	1			3	2	1		2	
DX140	OPEN	2485	18.2			2		1		2	1	
DX160	OPEN	2485	18.2			2		1		2	1	

DEUTZ ALLIS											
4W305	CLOSED (LS)	2500	23	1			2	1	2		1
5215HST							NOTHING RECOMMENDED				
5220 (a)	OPEN	1985	5.15				2				
5220HST							NOTHING RECOMMENDED				
5230 (a)	OPEN	1985	6.4				2				
6240	OPEN	2538	11.6	2			3		2		
6250	OPEN	2538	13.5	1			3	2	1		2
6260	OPEN	2538	13.5	1			3	2			2
6265	OPEN	2538	17.7			2		1		2	1
6275	OPEN	2538	17.7			2		1		2	1
7085	OPEN	2538	19.6			2				2	
7110	OPEN	2538	24			2				2	
7120	OPEN	2538	24			2				2	
7145	OPEN	2538	27.3			2				2	
8010	CLOSED (LS)	2500	22	1			2	1	2		1
8030	CLOSED (LS)	2500	22	1			2	1	2		1
8050	CLOSED (LS)	2500	22	1			2	1	2		1
8070	CLOSED (LS)	2500	22	1			2	1	2		1
8550	CLOSED (LS)	2500	23	1			2	1	2		1
9130	CLOSED	2275	24	1			2		2		
9150	CLOSED	2275	24	1			2		2		
9170	CLOSED	2275	23	1			2		2		
9190	CLOSED	2500	23	1			2	1	2		1

FENDT											
409	CLOSED (LS)	2900	19.8	1			2	1	2		1
410	CLOSED (LS)	2900	19.8/29	1			2	1	2		1
411	CLOSED (LS)	2900	19.8/29	1			2	1	2		1
412	CLOSED (LS)	2900	19.8/29	1			2	1	2		1
711	CLOSED (LS)	2900	29	1			2	1	2		1
712	CLOSED (LS)	2900	29	1			2	1	2		1
714	CLOSED (LS)	2900	29	1			2	1	2		1
716	CLOSED (LS)	2900	29	1			2	1	2		1
815	CLOSED (LS)	2900	29	1			2	1	2		1
817	CLOSED (LS)	2900	29	1			2	1	2		1
818	CLOSED (LS)	2900	29	1			2	1	2		1
918	CLOSED (LS)	2900	30	1			2	1	2		1
920	CLOSED (LS)	2900	30	1			2	1	2		1
924	CLOSED (LS)	2900	31	1			2	1	2		1
926	CLOSED (LS)	2900	31	1			2	1	2		1
930	CLOSED (LS)	2900	31	1			2	1	2		1

FORD & FORD NEW HOLLAND											
276	CLOSED (LS)	2800	27.6	1			2	1	2		1
756	CLOSED (LS)	2500	25.2	1			2	1	2		1
836	CLOSED (LS)	2500	25.2	1			2	1	2		1

CODE KEY
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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
FORD & FORD NEW HOLLAND cont.												
836PS	CLOSED (LS)	2500	25.2	1			2	1	2		1	
846	CLOSED (LS)	2500	25.2	1			2	1	2		1	
856	CLOSED (LS)	2500	25.2	1			2	1	2		1	
876	CLOSED (LS)	2500	25.2	1			2	1	2		1	
936	CLOSED (LS)	2400	24.5	1			2		2			
946	CLOSED (LS)	2400	24.5	1			2		2			
956	CLOSED (LS)	2400	24.5	1			2		2			
976	CLOSED (LS)	2400	24.5	1			2		2			
1000	OPEN	1400	4.2									
1100	OPEN	1850	2.9				NOTHING RECOMMENDED					
1110	OPEN	1850	4.1				2					
1120	OPEN	1850	4.7				2					
1156	CLOSED (LS)	2500	27	1			2	1	2		1	
1200	OPEN	1850	2.9				NOTHING RECOMMENDED					
1210	OPEN	1850	4.3				2					
1220	OPEN	1850	4.7				2					
1300	OPEN	2133	4.3				2					
1310	OPEN	2133	6.3				2		3			
1320	OPEN	2133	6.4				2		3			
1500	OPEN	2133	4				2					
1510	OPEN	2133	6.6				3		2			
1520	OPEN	2133	6.4				2		3			
1600	OPEN	1400	4.2				2					
1700	OPEN	2133	5.3				2					
1710	OPEN	2100	7.8				3		2			
1720	OPEN	2133	7.8				3		2			
1900	OPEN	2133	5.9				2		3			
1910	OPEN	2133	8.6				3		2			
1920	OPEN	2133	7.8				3		2			
2000	OPEN	2500	4				2					
2110	OPEN	2133	8.6				3		2			
2120	OPEN	2500	9.3	3					2			
2310	OPEN	2500	7.7				3		2			
2310 (a)	CLOSED	2500	13.6	3					2			
2600	OPEN	2100	8.5				3		2			
2610	OPEN	2000	8.5				3		2			
2610 (a)	CLOSED	2000	13.6	3					2			
2810	OPEN	2500	7.7				3		2			
2810 (a)	CLOSED	2500	13.6	3					3			
2910	OPEN	2500	7.7				3		2			
2910 (a)	CLOSED	2500	13.6	3					2			
3000	OPEN	2500	5				2					
3010	OPEN	2750	8.6				3		2			
3230	OPEN	2100	7.7				3		2			
3415	OPEN	2500	6.5				3		2			
3430	OPEN	2100	7.7				3		2			
3600	OPEN	2100	8.5				3		2			
3610	OPEN	2000	8.5				3		2			
3610 (a)	CLOSED	2000	13.6	3					2			
3830	OPEN	2700	11	2					3			
3910	OPEN	2500	7.7				3		2			
3910 (a)	CLOSED	2500	13.6	3					2			
3930	OPEN	2100	7.7				3		2			
4000	OPEN	2500	5				2					
4030	OPEN	2700	11	2					3			
4100	OPEN	2500	8.5				3		2			
4110	OPEN	2100	8.5/14.1	/2			2/3	/2	/1		/2	
4110 (a)	CLOSED	2000	13.6	3					2			
4230	OPEN	2700	11	2					3			
4430	OPEN	2700	11	2					3			
4600	OPEN	2100	8.5				3		2			
4600-SU	OPEN	2100	8.5				3		2			
4610	OPEN	2000	8.5/14.1	/1	3/		2/3	/2	/1		/2	
4610 (a)	CLOSED	2100	13.6	3					2			
4630	OPEN	2100	8.5/14.1	/2	3/		2/3	/2	/1		/2	
4835	OPEN	2750	14.5	1			3	2	1		2	

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
FORD & FORD NEW HOLLAND cont.												
5000	OPEN	2500	6		2		3					
5030	OPEN	2500	8.5/14.1	/1	3/		2/3	/2	/1		/2	
5530	OPEN	2700	11.7	2			3		2			
5600	OPEN	2100	9.7	2			3		2			
5610	(b)	2100	9.7/18.2	2/		/2	3/		2/	/2		
5635	OPEN	2750	14.5	1			3	2	1		2	
5640 S, SL	CLOSED	2500	18	1			2	1	2		1	
5640 SLE	CLOSED (LS)	2500	21	1			2	1	2		1	
5900	OPEN	2100	9	3			2		3			
6530	OPEN	2700	11.7	2			3		2			
6600	OPEN	2100	9.7	2			3					
6610	(b)	2100	9.7/18.2	2/		/2	3/		2/	/2		
6635	OPEN	14.5						1			1	
6640 S, SL	CLOSED	2500	18	1			2	1	2		1	
6640 SLE	CLOSED (LS)	2500	21	1			2	1	2		1	
6700	OPEN	2100	9.7	2			3		2			
6710	(b)	2100	9.7/18.2	2/		/2	3/		2/	/2		
7000	OPEN	2500	6		2		3					
7010	CLOSED	2500	17.4	1			2		2			
7530	OPEN	2700	11.6	2			3		2			
7600	OPEN	2100	9.7	2			3		2			
7610	(b)	2100	9.7/18.2	2/		/2	3/		2/	/2		
7700	OPEN	2100	9.7	2			3/		2/	/2		
7710	(b)	2100	9.7/18.2	2/		/2	3/		2/	/2		
7740 S, SL	CLOSED	2500	18	1			2	1	2		1	
7740 SLE	CLOSED (LS)	2500	20	1			2	1	2		1	
7810	(b)	2500	9.7/18.2	2/		/2	3/	/1	2/	/2	/1	
7840 SL	CLOSED	2500	17.4	1			2	1	2		1	
7840 SLE	CLOSED (LS)	2500	20	1			2	1	2		1	
8000	OPEN	2500	12	2			3		2			
8010	CLOSED	2500	17.4	1			2	1	2		1	
8160	CLOSED (LS)	2755	24	1			2	1	2		1	
8210	(b)	2100	9.7/18.2	2			1					
8240 SLE	CLOSED (LS)	2500	20	1			2	1	2		1	
8260	CLOSED (LS)	2755	24	1			2	1	2		1	
8340 SLE	CLOSED (LS)	2500	20	1			2	1	2		1	
8360	CLOSED (LS)	2755	24	1			2	1	2		1	
8530	CLOSED	2500	30.3	1			2	1	2		1	
8560	CLOSED (LS)	2755	26	1			2	1	2		1	
8600	OPEN	2500	12	2			3		2			
8630	(b)	2500	29	1			2	1	2		1	
8670	CLOSED (LS)	2750	31	1			2	1	2		1	
8700	OPEN	2200	15.5	3			3	2	3		2	
8730	(b)	2500	29	1			2	1	2		1	
8770	CLOSED (LS)	2750	31	1			2	1	2		1	
8830	(b)	2500	29	1			2	1	2		1	
8870	CLOSED (LS)	2750	31	1			2	1	2		1	
8970	CLOSED (LS)	2750	31	1			2	1	2		1	
9000	OPEN	2500	16	3			3	2	3		2	
9030	CLOSED (LS)	2300	30	1			2		2			
9184	CLOSED (LS)	2900	45	1			2	1	2		1	
9280	CLOSED (LS)	2400	25/30	1			2		2			
9282	CLOSED (LS)	2900	30	1			2	1	2		1	
9384	CLOSED (LS)	2900	45	1			2	1	2		1	
9480	CLOSED (LS)	2400	24/30	1			2		2			
9482	CLOSED (LS)	2900	30	1			2	1	2		1	
9600	OPEN	2500	16	3			3	2	3		2	
9680	CLOSED (LS)	2400	25/30	1			2		2			
9682	CLOSED (LS)	2900	30	1			2	1	2		1	
9684	CLOSED (LS)	2900	50	1			2	1	2		1	
9700	OPEN	2500	15.5	3			3	2	3		2	
9880	CLOSED (LS)	2400	25/30	1			2		2			
9882	CLOSED (LS)	2900	30	1			2	1	2		1	
9884	CLOSED (LS)	2900	50	1			2	1	2		1	
FW20	OPEN	2250	20			2				2		

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
FORD & FORD NEW HOLLAND cont.												
FW30	OPEN	2250	20			2					2	
FW40	OPEN	2250	20			2					2	
FW60	OPEN	2250	20			2					2	
G170,G190,G210,G240	CLOSED (LS)	2750	24	1			2	1	2		1	
M100,M115,M135,M160	CLOSED (LS)	2750	20	1			2	1	2		1	
TB100	CLOSED (LS)	2500	9.7	3			2					
TB110	CLOSED (LS)	2500	9.7	3			2					
TB120	CLOSED (LS)	2500	9.7	3			2					
TG210	CLOSED (LS)	3250	38.6/68	1			2	1	2			
TG230	CLOSED (LS)	3250	38.6/68	1			2	1	2			
TG255	CLOSED (LS)	3250	38.6/68	1			2	1	2			
TG285	CLOSED (LS)	3250	38.6/68	1			2	1	2			
TJ280	CLOSED (LS)	2800	33	1			2	1	2		1	
TJ275	CLOSED (LS)	2200	40/75	1			2		2			
TJ330	CLOSED (LS)	2800	33	1			2	1	2		1	
TJ325	CLOSED (LS)	2200	40/90	1			2		2			
TJ375	CLOSED (LS)	2200	40/90	1			2		2			
TJ375HD	CLOSED (LS)	2200	40/90	1			2		2			
TJ380	CLOSED (LS)	2800	33	1			2	1	2		1	
TJ375 Scraper	CLOSED (LS)	2200	55/90	1			2		2			
TJ425	CLOSED (LS)	2200	40/90	1			2		2			
TJ430	CLOSED (LS)	2800	33	1			2	1	2		1	
TJ425 Scraper	CLOSED (LS)	2200	55/90	1			2		2			
TJ450	CLOSED (LS)	2200	40/90	1			2		2			
TJ480	CLOSED (LS)	2800	33	1			2	1	2		1	
TJ450 Scraper	CLOSED (LS)	2200	55/90	1			2		2			
TJ530	CLOSED (LS)	2800	33	1			2	1	2		1	
TJ500	CLOSED (LS)	2200	35	1			2		2			
TK76 Crawler	OPEN	2755	12	2			3		2			
TK80A	OPEN	2750	11.9	2			3		2			
TK80MA	OPEN	2750	11.9	2			3		2			
TK85 Crawler	OPEN	2755	12	2			3		2			
TK85M Crawler	OPEN	2755	12	2			3		2			
TK100A	OPEN	2750	11.9	2			3		2			
TL70,TL80,TL90,TL100	CLOSED	2750	14.5	3			2		3			
TM115, TM120, TM125	CLOSED (LS)	2750	28	1			2	1	2		1	
TM130, TM135	CLOSED (LS)	2750	28	1			2	1	2		1	
TM140	CLOSED (LS)	2750	28	1			2	1	2		1	
TM150	CLOSED (LS)	2750	28	1			2	1	2		1	
TM155	CLOSED (LS)	2750	28	1			2	1	2		1	
TM165	CLOSED (LS)	2750	30.5	1			2	1	2		1	
TM175	CLOSED (LS)	2750	31.7	1			2	1	2		1	
TN55D,S	OPEN	2750	12.4/16.9	2/			3/	/2	2/2		/2	
TN65D,S	OPEN	2750	12.4/16.9	2/			3/	/2	2/2		/2	
TN65F,TN70	OPEN	2750	12.4	2			3		2			
TN70F	OPEN	2755	12.4/16.9	2/			3/		2/2		/2	
TN75D,S	OPEN	2750	16.9	3					3		2	
TN75F,FA	OPEN	2750	12.4	2			3		2			
TN80F	OPEN	2755	12.4/16.9	2/			3/	2	2		2	
TN85FA	OPEN	2750	12.4	2			3		2			
TN90F	OPEN	2750	16.9	3				2	3		2	
TN95F	OPEN	2755	16.9	3				2	3		2	
TN95FA	OPEN	2750	12.4	2			3		2			
TS90 8X2	CLOSED	2500	18	1			2	1	2		1	
TS90 16X16	CLOSED (LS)	2500	21	1			2	1	2		1	
TS100 8X2	CLOSED	2500	18	1			2	1	2		1	
TS100 16X16	CLOSED (LS)	2500	21	1			2	1	2		1	
TS110 8X2	CLOSED	2500	18	1			2	1	2		1	
TS110 16X16	CLOSED (LS)	2500	21	1			2	1	2		1	
TV140	CLOSED (LS)	3000	30	1			2	1	2		1	
TW-5	OPEN	2500	16	3				2	3		2	
TW-5 After July/1985	(b)	2500	25	1			2	1	2		1	
TW-10	OPEN	2200	16.2	3				2	3		2	
TW-15	OPEN	2500	15.3	3			3	2	3		2	
TW-15 After July/1985	(b)	2500	24	1			2	1	2		1	

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
FORD & FORD NEW HOLLAND cont.												
TW-20	OPEN	2200	15.5	3			3	2	3		2	
TW-25	OPEN	2500	15.3	3			3	2	3		2	
TW-25 After July/1985	(b)	2500	24	1			2	1	2		1	
TW-30	OPEN	2200	15.5	3			3	2	3		2	
TW-30 After 1979	OPEN	2200	20			2				2		
TW-35	OPEN	2500	20			2				2		
TW-35 After July/1985	(b)	2500	29	1			2	1	2		1	
COUNTRY SUPER 4	OPEN	2500	6				3					
COUNTRY SUPER 6	OPEN	2500	6.3				2					

(a) Series 10 tractors with closed center systems have the valves located at the rear of the tractor. Open center series 10 tractors have the valves located under the seat with hoses running back to couplers.

(b) This type of closed center system uses a constant displacement pump. Contact Ford New Holland before operating a hydraulic-driven pump on this system. An auxiliary oil cooler may be required.

HESSTON-FIAT											
65-46	OPEN	2702	6.5		2		3				
70-65	OPEN	2700	9	3			2		3		
70-65C	OPEN	2700	11	2			3		2		
70-75C	OPEN	2700	11	2			3		2		
80-75C	OPEN	2700	11	2			3		2		
95-55	OPEN	2700	11	2			3		2		
130-90DT	OPEN	2450	13.4	1			3	2	1		2
160-90DT	OPEN	2450	14.7	1			3	2	1		2
180-90DT	OPEN	2450	14.7	1			3	2	1		2
466 & 466DT	OPEN	2700	11	2			3		2		
566 & 566DT	OPEN	2700	11	2			3		2		
580 & 580DT	OPEN	2702	9.6	3			2				
665C	OPEN	2700	9	3			2				
666 & 666DT	OPEN	2700	11	2			3		2		
680 & 680DT	OPEN	2702	11	2			3		2		
766DT	OPEN	2702	11	2			3		2		
780 & 780DT	OPEN	2702	11	2			3		2		
880-5 & 880-5DT	OPEN	2702	11	2			3		2		
980 & 980DT	OPEN	2702	11	2			3		2		
1180 & 1180DT	OPEN	2488	14.4	1			3	2	1		2
1380 & 1380DT	OPEN	2488	14.4	1			3	2	1		2
1580 & 1580DT	OPEN	2488	14.7	1			3	2	1		2
1880 & 1880DT	OPEN	2488	14.7	1			3	2	1		2
45-66 & 45-66DT	OPEN	2702	9	3			2				
55-56 & 55-56DT	OPEN	2700	9	3			2				
55-66 & 55-66DT	OPEN	2702	11	2			3		2		
55-76 & 55-76FDT	OPEN	2702	9	3			2				
60-66 & 60-66DT	OPEN	2702	11	2			3		2		
60-76 & 60-76FDT	OPEN	2702	11	2			3		2		
60-90 & 60-90DT	OPEN	2702	11	2			3		2		
65-56 & 65-56DT	OPEN	2700	9	3			2				
70-66 & 70-66DT	OPEN	2702	11	2			3		2		
70-76 & 70-76FDT	OPEN	2702	11	2			3		2		
70-76U	OPEN	2702	11	2			3		2		
70-90 & 70-90DT	OPEN	2702	11	2			3		2		
80-66 & 80-66DT	OPEN	2702	11	2			3		2		
80-76 & 80-76DT	OPEN	2702	11	2			3		2		
80-90 & 80-90DT	OPEN	2702	11	2			3		2		
880-5 & 880-5DT	OPEN	2702	11	2			3		2		
90-90 & 90-90DT	OPEN	2702	14	1			3	2	1		2
980 & 980DT	OPEN	2702	11	2			3		2		
100-90 & 100-90DT	OPEN	2702	14	1			3	2	1		2
1180 TURBO	OPEN	2488	14.4	1			3	2	1		2
1180DT TURBO	OPEN	2488	14.4	1			3	2	1		2
130-90 & 130-90DT	OPEN	2450	13.4	1			3	2	1		2
1380 & 1380DT	OPEN	2488	14.4	1			3	2	1		2
140-90 & 140-90DT	OPEN	2450	13.4	1			3	2	1		2
1580 TURBO	OPEN	2488	14.7	1			3	2	1		2
1580DT TURBO	OPEN	2488	14.7	1			3	2	1		2
160-90 & 160-90DT	OPEN	2450	14.7	1			3	2	1		2
1880 & 1880DT	OPEN	2488	14.7	1			3	2	1		2

CODE KEY

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
HESSTON-FIAT cont.												
180-90 & 180-90DT	OPEN	2450	14.7	1			3	2	1		2	
F110 & F110DT	OPEN	2670	14.9	1			3	2	1		2	
F130 & F130DT	OPEN	2670	14.9	1			3	2	1		2	
INTERNATIONAL HARVESTER												
100, HYDRO	OPEN	2000	13	2			3		2			
140	OPEN	1200	5		2							
234	OPEN	1920	3.4		NOTHING RECOMMENDED							
234, HYDRO	OPEN	1920	3.4		NOTHING RECOMMENDED							
244	OPEN	1995	4.1		2							
254	OPEN	1995	4.2		2							
274	OPEN	1750	5.7		2							
284	OPEN	1750	6		2		3					
354	OPEN	2400	6		2		3					
364	OPEN	2400	6		2		3					
364, After 1977	OPEN	2400	9	3			2		3			
384	OPEN	2400	9	3			2		3			
454	OPEN	2300	9	3			2		3			
464	OPEN	2300	9	3			2		3			
464, 1975 Models	OPEN	2500	9	3			2		3			
464, After 1975	OPEN	2500	10.5	2			3		2			
484	OPEN	2500	12	2			3		2			
544	OPEN	1600	15/8.5	3/			3/2	2/	3/		2/	
574	OPEN	2500	9	3			2		3			
574, After 1975	OPEN	2500	9.5	2			3					
584	OPEN	2500	9.5	2			3					
600DT	OPEN	2150	5.8		2							
604	OPEN	2000	13	2			3		2			
656	OPEN	2000	15/8.5	3/			3/2	2/	3/		2/	
664	OPEN	1600	16/8.5	3/			3/2	2/	3/		2/	
666	OPEN	1600	15/8.5	3/			3/2	2/	3/		2/	
674	OPEN	2500	9	3			2		3			
674, After 1975	OPEN	2500	10.5	2			1					
684	OPEN	2500	10.5	2			1					
686	OPEN	1550	15/8.5	3/			3/2	2/	3/		2/	
HYDRO-70	OPEN	1350	15/8.5	3/			3/2	2/	3/		2/	
756	OPEN	1550	12	2			3		2			
766	OPEN	2000	12	2			3		2			
766, After 1975	OPEN	2000	13	2			3		2			
784	OPEN	2500	10.5	2			3					
HYDRO-84	OPEN	2500	10.5	2			3					
HYDRO-86	OPEN	1550	15/8.5	3/			/3	3/				
HYDRO-86 After 11/1980	CLOSED (LS)	1350	18	3			3					
826 HYDROSTATIC	OPEN	1550	12	2			3		2			
826 GEAR DRIVE	OPEN	2000	12	2			3		2			
856	OPEN	2000	12	2			3		2			
884	OPEN	2000	13	2			3		2			
886 (a)	OPEN	2250	13	2			3		2			
886, After 11/1980	CLOSED (LS)	2650	18	1			2	1	2		1	
966	OPEN	2000	12	2			3		2			
966, After 1975	OPEN	2000	13	2			3		2			
986 (a)	OPEN	2250	12	2			3		2			
986, After 1978 (a)	OPEN	2250	13	2			3		2			
986, After 11/1980	CLOSED (LS)	2650	18	1			2	1	2		1	
HYDRO-186(a)	OPEN	2250	12	2			3		2			
HYDRO-186 after 11/1980	CLOSED (LS)	2650	18	1			2	1	2		1	
1026	OPEN	2000	12	2			3		2			
1066	OPEN	2000	12	2			3		2			
1086 (a)	OPEN	2450	13	2			3		2			
1086, After 1977 (a)	OPEN	2450	12	2			3		2			
1086, After 11/1980	CLOSED (LS)	2650	18	1			2	1	2		1	
1456	OPEN	2000	12	2			3		2			
1466	OPEN	2250	12	2			3		2			
1486 (a)	OPEN	2450	13	2			3		2			
1486, After 1977 (a)	OPEN	2450	13	2			3		2			

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
I.H. cont.												
1486, After 11/1980	CLOSED (LS)	2650	18	1			2	1	2		1	
1566	OPEN	2250	13	2			3		2			
1568	OPEN	2250	13	2			3		2			
1586 (a)	OPEN	2450	13	2			3		2			
1586, After 1977 (a)	OPEN	2450	13	2			3		2			
1586, After 11/1980	CLOSED (LS)	2650	18	1			2	1	2		1	
3088	OPEN	2250	15	3			3	2	3		2	
3288	OPEN	2250	15	3			3	2	3		2	
3388	CLOSED (LS)	2650	18	1			2	1	2		1	
3488	CLOSED (LS)	2600	18.6	1			2	1	2		1	
3588	CLOSED (LS)	2650	18	1			2	1	2		1	
3688	CLOSED (LS)	2600	18.6	1			2	1	2		1	
3788	CLOSED (LS)	2650	18	1			2	1	2		1	
4166	OPEN	2000	17			2		1		2	1	
4186	OPEN	2000	18			2		1		2	1	
4366	OPEN	2000	22			2				2		
4386	OPEN	2000	16	3			3	2	3		2	
4568	OPEN	1800	16	3			3	2	3		2	
4586	OPEN	2000	19			2		1		2	1	
4786	OPEN	2000	19			2		1		2	1	
5088	CLOSED (LS)	2600	25	1			2	1	2		1	
5288	CLOSED (LS)	2600	25	1			2	1	2		1	
5488	CLOSED (LS)	2600	25	1			2	1	2		1	
6388	CLOSED (LS)	2600	18.6	1			2	1	2		1	
6588	CLOSED (LS)	2600	18.6	1			2	1	2		1	
6788	CLOSED (LS)	2600	18.6	1			2	1	2		1	
7288	CLOSED (LS)	2600	26	1			2	1	2		1	
7388	OPEN	2000	22			2				2		
7488	CLOSED (LS)	2650	26	1			2	1	2		1	
7588	OPEN	2000	22			2				2		
7788	OPEN	2250	22			2				2		

(a) For tractors built prior to November 1980, International Harvester Service Bulletin S-3436 dated March 1977 advises that continuous hydraulic demand on the remote outlet valves such as that created by hydraulic motors, can cause damage to the tractor hydraulic system. In gear-driven tractors (86 series, 2 wheel drive), the MCV pump charge circuit would not be receiving its normal flow; and in Hydrostatic drive tractors, the oil cooler circuit would not be receiving its normal flow.

JOHN DEERE

650	OPEN	1800	4.5			2					
655	OPEN	2050	4			2					
670	OPEN	2050	5.5			2	3				
750	OPEN	2050	5.8			2	3				
755	OPEN	2050	5.6			2	3				
770	OPEN	2050	5.6			2	3				
790	OPEN	2050	5.6			2	3				
990	OPEN	2262	8.5			3	2				
820	OPEN	2100	6.5			3	2				
830	OPEN	2100	6.5			3	2				
850	OPEN	2100	5			2					
850 AFTER 1979	OPEN	2100	6.5			3	2				
855	OPEN	2050	5.6			2	3				
870	OPEN	2250	8.1				2				
950	OPEN	2100	5			2					
950 AFTER 1979	OPEN	2100	6.5			3	2				
955	OPEN	2500	7.2			3	2				
970	OPEN	2250	8.7	3			2		3		
1020	CLOSED	2250	6.5				2				
1020 AFTER 1979	CLOSED	2250	12				2				
1050	OPEN	2000	5.7				3				
1050 AFTER 1979	OPEN	2030	7				2				
1070	OPEN	2250	9	3			2				
1250	OPEN	2250	15.8	3			3	2	3		2
1450	OPEN	2250	15.2	3			3	2	3		2
1520	CLOSED	2250	6.5/12				2				
1530	CLOSED	2250	6.5/12				2				
1650	OPEN	2250	14.5	1			3	2	1		2

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
JOHN DEERE cont.												
2020	CLOSED	2250	6.5/12					2				
2030	CLOSED	2250	6.5/14					2				
2040 (a)	OPEN	2100	6.5		3			2				
2040 (b)	CLOSED	2250	12					2				
2150	CLOSED	2250	13					2				
2155	CLOSED	2320	13					2				
2240	CLOSED	2250	12					2				
2255	CLOSED	2320	13/23	/1				2				
2350	CLOSED	2250	13/23	/1				2				
2355	CLOSED	2320	13/23	/1				2				
2440	CLOSED	2250	18-Dec					2				
2520	CLOSED	2250	14					2				
2550	CLOSED	2250	13/23	/1				2				
2555	CLOSED	2320	13/23	/1				2				
2630	CLOSED	2250	39069	/1				2				
2640	CLOSED	2250	39069	/1				2				
2750	CLOSED	2250	13/23					2				
2755	CLOSED	2320	13/23					2				
2855N	CLOSED	2320	21	1				2	2			
2840	CLOSED	2250	14					2				
2940	CLOSED	2250	14					2				
2950	CLOSED	2250	23	1				2	2			
2955	CLOSED	2320	21	1				2	2			
3020	CLOSED	2250	14					2				
3055	CLOSED	2320	22	1				2	2			
3150	CLOSED	2320	22	1				2	2			
3155	CLOSED	2320	22	1				2	2			
3255	CLOSED	2320	22	1				2	2			
4000	CLOSED	2250	18	1				2	2			
4020	CLOSED	2250	18	1				2	2			
4030	CLOSED	2250	14					2				
4040	CLOSED	2250	18	1				2	2			
4050	CLOSED	2320	26	1				2	2			
4055	CLOSED	2530	26.5	1			2	1	2	1		
4100	OPEN	2418	5.1		2							
4110	OPEN	2418	5.1		2							
4115	OPEN	2418	5.1		3							
4200	OPEN	2125	7.3		3		2					
4210	OPEN	2125	7		3		2					
4230	CLOSED	2350	18	1			2		2			
4240	CLOSED	2200	20	1			2		2			
4250	CLOSED	2320	26	1			2		2			
4255	CLOSED	2530	26.5	1			2	1	2	1		
4300	OPEN	2500	8.3		3		2					
4310	OPEN	2500	8.6		3		2					
4320	CLOSED	2250	18	1			2		2			
4400	OPEN	2500	8.3		3		2	1		1		
4410	OPEN	2500	8.6		3		2					
4420	CLOSED	2530	18	1			2	1	2	1		
4430	CLOSED	2250	18	1			2		2			
4440	CLOSED	2200	26	1			2		2			
4450	CLOSED	2320	26	1			2		2			
4455	CLOSED	2530	26.5	1			2	1	2	1		
4500	OPEN	2500	9.9	2			3		2			
4510	OPEN	2500	10.6	2			3		2			
4555	CLOSED	2530	29.5	1			2	1	2	1		
4560	CLOSED	2320	29.5	1			2		2			
4600	OPEN	2500	10.3	2					2			
4610	OPEN	2500	10.6	2					2			
4620	CLOSED	2250	18	1			2		2			
4630	CLOSED	2250	18	1			2		2			
4640	CLOSED	2200	20	1			2		2			
4650	CLOSED	2320	34	1			2		2			
4710	OPEN	2500	10.6	2			3		2			
4755	CLOSED	2530	30	1			2	1	2	1		
4760	CLOSED	2530	30	1			2	1	2	1		

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				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
JOHN DEERE cont.												
4840	CLOSED	2200	26	1			2			2		
4850	CLOSED	2320	34	1			2			2		
4955	CLOSED	2530	29.5	1			2	1		2		1
4960	CLOSED	2530	29	1			2	1		2		1
5105	OPEN	2990	10.9	2			3			2		
5020	CLOSED	2250	18	1			2			2		
5200	OPEN	2750	11.4	2			3			2		
5205	OPEN	2990	10.9	2			3			2		
5210	OPEN	2750	11.4	2			3			2		
5220	OPEN	2755	11.4	2			3			2		
5225	OPEN	2800	13.5	2			3			2		
5300	OPEN	2750	11.4	2			3			2		
5303	OPEN	2800	11	2			3			2		
5310	OPEN	2750	11.4	2			3			2		
5310N	OPEN	2750	11.4	2			3			2		
5320	OPEN	2755	18.2			2		1			2	1
5320N	OPEN	2755	18.2			2		1			2	1
5325	OPEN	2900	13.5	2			3			2		
5400	OPEN	2750	11.4	2			3			2		
5400N	OPEN	2750	11.4	2			3			2		
5403	OPEN	2800	11	2			3			2		
5410	OPEN	2855	15.9	3			3	2		3		2
5420	OPEN	2755	15.9	3			3	2		3		2
5425	OPEN	2800	18.4			2		1			2	1
5500	OPEN	2750	11.4	2			3			2		
5500N	OPEN	2750	16.4	3				2		3		2
5510	OPEN	2855	15.9	3			3	2		3		2
5510N	OPEN	2855	15.9	3			3	2		3		2
5520	OPEN	2755	15.9	3			3	2		3		2
5525	OPEN	2800	18.4			2		1			2	1
6030	CLOSED	2250	18	1			2			2		
6110,6110L	CLOSED (LS)	2900	18/25	1			2	1		2		1
6120	CLOSED (LS)	2900	25.4/18.9	1			2	1		2		1
6200	CLOSED (LS)	2900	16/25	1			2	1		2		1
6210,6210L	CLOSED (LS)	2900	18/25	1			2	1		2		1
6215	CLOSED (LS)	2500	17.5	1			2	1		2		1
6220	CLOSED (LS)	2900	25.4/18.9	1			2	1		2		1
6300	CLOSED (LS)	2900	16/25	1			2	1		2		1
6310,6310L,6310S	CLOSED (LS)	2900	18/25	1			2	1		2		1
6320	CLOSED (LS)	2900	25.4/18.9	1			2	1		2		1
6320L	CLOSED (LS)	2900	25.4	1			2	1		2		1
6400	CLOSED (LS)	2900	16/25	1			2	1		2		1
6403	OPEN	2750	12	2			3			2		
6405	CLOSED	2500	17.5	1			2	1		2		1
6410,6410L,6410S	CLOSED (LS)	2900	18/25	1			2	1		2		1
6415	CLOSED (LS)	2500	17.5	1			2			2		
6420	CLOSED (LS)	2900	25.4/18.9	1			2	1		2		1
6420L	CLOSED (LS)	2900	25.4	1			2	1		2		1
6420S	CLOSED (LS)	2900	25.4	1			2	1		2		1
6500	CLOSED (LS)	2900	18.8	1			2	1		2		1
6510,6510L,6510S	CLOSED (LS)	2900	30.2	1			2	1		2		1
6520	CLOSED (LS)	2900	25.4	1			2	1		2		1
6603	OPEN	2750	15	3			3	2		3		2
6605	CLOSED (LS)	2500	17.5	1			2	1		2		1
6615	CLOSED (LS)	2500	17.5	1			2	1		2		1
6620	CLOSED (LS)	2900	25.4	1			2	1		2		1
6715	CLOSED (LS)	2500	17.5	1			2	1		2		1
6820	CLOSED (LS)	2900	25.4	1			2	1		2		1
6920,6920S	CLOSED (LS)	2900	25.4	1			2	1		2		1
7010	CLOSED (LS)	2900	33	1			2	1		2		1
7020	CLOSED	2000	14/18	1			2			2		
7200	CLOSED (LS)	2900	16/25.4	1			2	/1		2		/1
7210	CLOSED (LS)	2900	15.9/26.2	1			2	/1		2		/1
7220	CLOSED (LS)	2900	26.7	1			2	1		1		1
7320	CLOSED (LS)	2900	26.7	1			2	1		2		1

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
JOHN DEERE cont.												
7400	CLOSED (LS)	2900	16/25.4	1			2	/2	2		/1	
7405	CLOSED (LS)	2750	17.5	1			2	1	2		1	
7410	CLOSED (LS)	2900	15.9/26.2	1			2	/1	2		/1	
7420	CLOSED (LS)	2900	26.7	1			2	1	2		1	
7510	CLOSED (LS)	2900	26	1			2	1	2		1	
7520	CLOSED (LS)	2900	26.7	1			2	1	2		1	
7600	CLOSED (LS)	2900	25.4	1			2	1	2		1	
7610	CLOSED (LS)	2900	33	1			2	1	2		1	
7700	CLOSED (LS)	2900	25.4	1			2	1	2		1	
7710	CLOSED (LS)	2900	26	1			2	1	2		1	
7720	CLOSED (LS)	3046	30	1			2	1	2		1	
7800	CLOSED (LS)	2900	25.4	1			2	1	2		1	
7810	CLOSED (LS)	2900	26	1			2	1	2		1	
7830	CLOSED (LS)	2900	32/45	1			2	1	2		1	
7920	CLOSED (LS)	3046	30	1			2	1	2		1	
8100,8100T	CLOSED (LS)	2900	29	1			2	1	2		1	
8110T	CLOSED (LS)	2900	33.5	1			2	1	2		1	
8120/8120T	CLOSED (LS)	2900	33.5/42.5	1			2	1	2		1	
8130	CLOSED (LS)	2900	31.7	1			2	1	2		1	
8200,8200T	CLOSED (LS)	2900	29	1			2	1	2		1	
8210,8210T	CLOSED (LS)	2900	30	1			2	1	2		1	
8220/8220T	CLOSED (LS)	2900	33.5/42.5	1			2	1	2		1	
8230	CLOSED (LS)	2900	31.7	1			2	1	2		1	
8300,8300T	CLOSED (LS)	2900	29	1			2	1	2		1	
8310,8310T	CLOSED (LS)	2900	33.5	1			2	1	2		1	
8320/8320T	CLOSED (LS)	2900	33.5/42.5	1			2	1	2		1	
8330	CLOSED (LS)	2900	31.7	1			2	1	2		1	
8400,8400T	CLOSED (LS)	2900	29	1			2	1	2		1	
8410,8410T	CLOSED (LS)	2900	33.5	1			2	1	2		1	
8420/8420T	CLOSED (LS)	2900	33.5/42.5	1			2	1	2		1	
8430	CLOSED	2200	18	1			2		2			
8440	CLOSED	2250	18	1			2		2			
8450	CLOSED	2250	28.5	1			2		2			
8520/8520T	CLOSED (LS)	2900	33.5/42.5	1			2	1	2		1	
8530	CLOSED (LS)	2900	31.7	1			2	1	2		1	
8560	CLOSED	2530	33.3	1			2	1	2		1	
8570	CLOSED	2530	33.3	1			2	1	2		1	
8630	CLOSED	2250	18	1			2		2			
8640	CLOSED	2250	18	1			2		2			
8650	CLOSED	2250	28.5	1			2		2			
8760	CLOSED	2530	33.3	1			2	1	2		1	
8770	CLOSED	2530	33.3	1			2	1	2		1	
8850	CLOSED	2250	44.4	1			2		2			
8870	CLOSED	2530	33.3	1			2	1	2		1	
8960	CLOSED	2530	33.3	1			2	1	2		1	
8970	CLOSED	2530	33.3	1			2	1	2		1	
9100	CLOSED (LS)	2900	35/44	1			2	1	2		1	
9120	CLOSED (LS)	2900	44/48	1			2	1	2		1	
9200	CLOSED (LS)	2900	35/44	1			2	1	2		1	
9220	CLOSED (LS)	2900	44/48	1			2	1	2		1	
9300,9300T	CLOSED (LS)	2900	35/44	1			2	1	2		1	
9320/9320T	CLOSED (LS)	2900	44/48	1			2	1	2		1	
9400,9400T	CLOSED (LS)	2900	35/44	1			2	1	2		1	
9420/9420T	CLOSED (LS)	2900	44/48	1			2	1	2		1	
9520/9520T	CLOSED (LS)	2900	48	1			2	1	2		1	
9620	CLOSED (LS)	2900	48	1			2	1	2		1	

(a) Tractor serial numbers through 266749.

(b) Tractor serial numbers beginning with 266750.

CODE KEY

(1) Best recommendation for high performance applications.

(2) Recommended for standard applications.

(3) Will also work.

(LS) Load Sensing Hydraulic System. On all closed center, load sensing hydraulic systems, run hydraulic motor on priority circuit.

Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
KUBOTA												
M105X	OPEN	2915	18			2		1		2	1	
M125X	OPEN	2915	20.6			2		1		2	1	
M4800	OPEN	2770	17	3		2		1	3		2	
M4900	OPEN	2770	11	2			3		2			
M5700	OPEN	2770	11	2			3		2			
M6800	OPEN	2770	11	2			3		2			
M8200	OPEN	2884	11/17	2/3		/2	3/	/1	2/3		/2	
MASSEY-FERGUSON * SEE FOOTNOTES FOR ALL MODELS												
MF130-D	OPEN	2000	8		3		2					
MF135-G	OPEN	3000	8		3		2					
MF135-D	OPEN	3000	8		3		2					
MF150-G	OPEN	3000	8		3		2					
MF150-D	OPEN	3000	8		3		2					
MF154	OPEN	2418	9.2	3			2		3			
MF165-G	OPEN	3000	8		3		2					
MF165-G aux.	OPEN	3000	8		3		2					
MF165-G After 1972	OPEN	3000	8		3		2					
MF165-G After 1972 aux.	OPEN	3000	10	2			3		2			
MF165-D	OPEN	3000	8		3		2					
MF165-D aux.	OPEN	3000	8		3		2					
MF165-D After 1972	OPEN	3000	8		3		2					
MF165-D After 1972 aux.	OPEN	3000	10	2			3		2			
MF174	OPEN	2418	9.8	2			3		2			
MF175-G	OPEN	3000	8		3		2					
MF175-G aux.	OPEN	3000	8		3		2					
MF175-G After 1972	OPEN	3000	8		3		2					
MF175-G After 1972 aux.	OPEN	3000	10	2			3		2			
MF175-D	OPEN	3000	8		3		2					
MF175-D aux.	OPEN	3000	8		3		2					
MF175-D After 1972	OPEN	3000	8		3		2					
MF175-D After 1972 aux.	OPEN	3000	10	2			3		2			
MF180-G	OPEN	3000	8		3		2					
MF180-G aux.	OPEN	3000	8		3		2					
MF180-G After 1972	OPEN	3000	8		3		2					
MF180-G After 1972 aux.	OPEN	3000	10	2			3		2			
MF180-D	OPEN	3000	8		3		2					
MF180-D aux.	OPEN	3000	8		3		2					
MF180-D After 1972	OPEN	3000	8		3		2					
MF180-D After 1972 aux.	OPEN	3000	10	2			3		2			
MF184-4	OPEN	2418	7.4		3		2					
MF194	OPEN	2418	9.4	2			3		2			
MF203	OPEN	2600	8		3		2					
MF205	OPEN	1700	5		2							
MF205-4	OPEN	1700	5		2							
MF210	OPEN	1700	5.4		2							
MF210-4	OPEN	1700	5.4		2							
MF220	OPEN	1700	5.4		2							
MF220-4	OPEN	1700	5.4		2							
MF230-D	OPEN	3000	8		3		2					
MF230-G	OPEN	3000	8		3		2					
MF231	CLOSED	2320	4		2							
MF235-D	OPEN	3000	4.5		2							
MF235-D aux.	OPEN	3000	10	2			3		2			
MF235-E	OPEN	3000	4.5		2							
MF235-E aux.	OPEN	3000	10	2			3		2			
MF235-G	OPEN	3000	4.5		2							
MF235-G aux.	OPEN	3000	10	2			3		2			
MF240	CLOSED	2540	4		2							
MF241	OPEN	2500	4.4		2							
MF243	OPEN	2500	9.5	2			3		2			
MF245-D	CLOSED	3000	4.5		2							
MF245-D aux.	OPEN	3000	10	2			3		2			
MF245-G	CLOSED	3000	4.5		2							

CODE KEY

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- (3) Will also work.
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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
M.F. cont. *												
MF245-G aux.	OPEN	3000	10	2			3			2		
MF250	BOTH (a)	2000	14-Apr		2/		/3					
MF253	CLOSED	2550	4/13.7		2/		/3					
MF254	OPEN	2418	9.2	2			3		2			
MF255-D	CLOSED	3000	4		2							
MF255-D aux.	OPEN	3000	10	2			3		2			
MF255-G	CLOSED	3000	4		2							
MF255-G aux.	OPEN	3000	10	2			3		2			
MF261	CLOSED	3200	3.96		2							
MF263	OPEN	2500	9.5	2			3		2			
MF265-D	CLOSED	3000	4		2							
MF265-D aux.	OPEN	3000	10	2			3		2			
MF270	OPEN	2500	10.3	2/3			3/3		2/3			
MF271	BOTH (a)	2500	9.5/17	2			3		2			
MF274	OPEN	2418	9.4	2			3		2			
MF275-D	CLOSED	3200	4		2							
MF275-D aux.	OPEN	2500	10.3	2			3		2			
MF281	OPEN	2600	10	2			3		2			
MF283	CLOSED	3000	4.4		2		3					
MF283 aux.	OPEN	3000	10	2			3		2			
MF285	CLOSED	3200	7		3		2					
MF290	BOTH (a)	2500	9.5	2			3		2			
MF294	OPEN	2400	9.5	2			3		2			
MF298	OPEN	2400	9.5	2			3		2			
MF360	BOTH (a)	2500	14	2			3		2			
MF362	BOTH (a)	2500	13.7	2			3		2			
MF374	OPEN	2500	11.2	2			3		2			
MF374S	OPEN	2418	11.4	2			3		2			
MF375	BOTH (a)	2500	16.7	3			3	2	3	2		
MF383	CLOSED	3000	4.4		2							
MF384	OPEN	2500	11.2	2			3		2			
MF390	BOTH (a)	2500	16.7	3			3	2	3	2		
MF390T	BOTH (a)	2500	16.7	3			3	2	3	2		
MF393	CLOSED	3200	7.2		3		2					
MF394	OPEN	2500	11.2	2			3		2			
MF394S	OPEN	2418	11.4	2			3		2			
MF396	CLOSED	3200	9.5	2			3		2			
MF398	BOTH (a)	2500	16.7	3			3	2	3	2		
MF399	BOTH (a)	2500	16.7	3			3	2	3	2		
MF451	OPEN	2700	9.5	2			3		2			
MF471	OPEN	2700	11.1	2			3		2			
MF481	OPEN	2700	11.1	2			3		2			
MF650	CLOSED (LS)	3000	13	3			2		3			
MF660	CLOSED (LS)	3000	15.8	1			2		2			
MF670	BOTH (a)	2725	9.5/17	2/3			3/2		2/3			
MF680	CLOSED (LS)	3000	15.8	1			2		2			
MF690	BOTH (a)	2725	9.5/17	2/3			3/2	/1	2/3			
MF698	BOTH (a)	2725	9.5/17	2/3			3/2		2/3			
MF699	BOTH (a)	2725	9.5/17	2/3			3/2		2/3			
MF1080-D	CLOSED	3100	7		3		2					
MF1085	CLOSED	3100	7		3		2					
MF1100-D	CLOSED	2100	20	1			2		2			
MF1105	CLOSED	2100	20	1			2		2			
MF1130-D	CLOSED	2100	20	1			2		2			
MF1135	CLOSED	2100	20	1			2		2			
MF1150-D	CLOSED	2100	20	1			2		2			
MF1155	CLOSED	2100	20	1			2		2			
MF1160	OPEN	2275	8.2		3		2					
MF1180	OPEN	2417	8.2		3		2					
MF1190	OPEN	2417	8.2		3		2					
MF1210	OPEN	2130	5.2		2		3					
MF1210H	OPEN	2130	5.2		2		3					
MF1220	OPEN	2130	5.2		2		3					
MF1220H	OPEN	2130	5.2		2		3					
MF1230	OPEN	2130	6		2		3					

CODE KEY

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
M.F. cont. *												
MF1230H	OPEN	2130	6		2		3					
MF1240	OPEN	2130	6.7		3		2					
MF1250	OPEN	2130	6.7		3		2					
MF1260	OPEN	2130	6.7		3		2					
MF1500-D	OPEN	2400	20			2				2		
MF1505	OPEN	2400	20			2				2		
MF1800-D	OPEN	2400	20			2				2		
MF1805	OPEN	2400	20			2				2		
MF2225	OPEN	2250	14	1			3	2	1		2	
MF2235	OPEN	2250	14	1			3	2	1		2	
MF2675	OPEN	2250	14	1			3	2	1		2	
MF2700	OPEN	2250	14	1			3	2	1		2	
MF2705	OPEN	2250	14	1			3	2	1		2	
MF2745	OPEN	2250	14	1			3	2	1		2	
MF2775	OPEN	2250	14	1			3	2	1		2	
MF2800	OPEN	2250	14	1			3	2	1		2	
MF2805	OPEN	2250	14	1			3	2	1		2	
MF3050	OPEN	2610	13.2	2			3		2			
MF3060	OPEN	2610	13.2	2			3		2			
MF3070	OPEN	2610	13.2	2			3		2			
MF3075	OPEN	2610	13.2	2			3		2			
MF3090	OPEN	2610	13.2	2			3		2			
MF3120	OPEN	2610	13.2	2			3		2			
MF3120T	OPEN	2610	13.2	2			3	/2	2			
MF3140	OPEN	2610	13.2	2			3		2			
MF3315GE	OPEN	2610	11.6/15.3	2/3			3/3	/2	2/3		/2	
MF3315S	OPEN	2175	11.6/15.3	2/3			3/3	/2	2/3		/2	
MF3315V	OPEN	2610	11.6/15.3	2/3			3/3	/2	2/3		/2	
MF3330F	OPEN	2610	13.7/15.3	2/3			3/3	/2	2/3		/2	
MF3330GE	OPEN	2610	11.6/15.3	2/3			3/3	/2	2/3		/2	
MF3330S	OPEN	2175	11.6/15.3	2/3			3/3	/2	2/3		/2	
MF3330V	OPEN	2610	11.6/15.3	2/3			3/3	/2	2/3		/2	
MF3340F	OPEN	2175	13.7/15.3	2/3			3/3	/2	2/3		/2	
MF3340GE	OPEN	2610	13.7/15.3	2/3			3/3	/2	2/3		/2	
MF3340V	OPEN	2610	13.7/15.3	2/3			3/3	/2	2/3		/2	
MF3350F	OPEN	2175	13.7/15.3	2/3			3/3	/2	2/3		/2	
MF3350GE	OPEN	2610	13.7/15.3	2/3			3/3	/2	2/3		/2	
MF3355F	OPEN	2175	13.7/15.3	2/3			3/3	/2	2/3		/2	
MF3355GE	OPEN	2610	13.7/15.3	2/3			3/3	/2	2/3		/2	
MF3505	OPEN	2538	14	1			3	2	1		2	
MF3525	OPEN	2538	14	1			3	2	1		2	
MF3545	OPEN	2538	14	1			3	2	1		2	
MF3630	OPEN	2538	14	1			3	2	1		2	
MF3645	OPEN	2418	9.5	2			3		2			
MF3650	OPEN	2538	14.4	1			3	2	1		2	
MF3660	OPEN	2610	14.1	1			3	2	1		2	
MF3670	OPEN	2540	13.2	2			3		2			
MF3680	OPEN	2538	14.1	1			3	2	1		2	
MF3690	OPEN	2540	13.2	2			3		2			
MF3745	OPEN	2418	9.5	2			3		2			
MF3845	OPEN	2418	9.5	2			3		2			
MF3945	OPEN	2418	9.5	2			3		2			
MF4225	OPEN	3046	10	2			3		2			
MF4235	OPEN	3046	10	2			3		2			
MF4243	OPEN	3046	10	2			3		2			
MF4245	OPEN	3046	10	2			3		2			
MF4253	OPEN	3046	10	2			3		2			
MF4255	OPEN	3046	10	2			3		2			
MF4263	OPEN	3046	10	2			3		2			
MF4270	OPEN	3046	10	2			3		2			
MF4325	OPEN	3046	10/17.4	2/		/2	3/	/1	2/	/2	/1	
MF4335	OPEN	3046	10/17.4	2/		/2	3/	/1	2/	/2	/1	
MF4345	OPEN	3046	10/17.4	2/		/2	3/	/1	2/	/2	/1	
MF4355	OPEN	3046	10/17.4	2/		/2	3/	/1	2/	/2	/1	
MF4360	OPEN	3046	10/17.4	2/		/2	3/	/1	2/	/2	/1	

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
M.F. cont. *												
MF4370	OPEN	3046	10/17.4	2/		/2	3/	/1	2/	/2	/1	
MF4800	OPEN	2250	20			2				2		
MF4840	OPEN	2500	20			2				2		
MF4880	OPEN	2500	20			2				2		
MF4900	OPEN	2500	20			2				2		
MF5340	OPEN	2610	17.4	3		2		1	3		2	
MF5355	OPEN	2610	17.4	3		2		1	3		2	
MF5435	OPEN	3050	15	3			3	2	3		2	
MF5445	OPEN	3050	15	3			3	2	3		2	
MF5455	OPEN	3050	15	3			3	2	3		2	
MF5460	OPEN	3050	15	3			3	2	3		2	
MF5460SA	OPEN	3050	26			2				2		
MF5465	OPEN	3050	15	3			3	2	3		2	
MF5470SA	OPEN	3050	26			2				2		
MF5475SA	OPEN	3050	26			2				2		
MF6150	OPEN	2610	14.9	3			3	2	3		2	
MF6170	OPEN	2610	14.9	3			3	2	3		2	
MF6180	OPEN	2610	14.9	3			3	2	3		2	
MF6255	BOTH (a)	2900	15/27.7	3/1			3/2	2/1	3/2		2/1	
MF6265	BOTH (a)	2900	15/27.7	3/1			3/2	2/1	3/2		2/1	
MF6270	BOTH (a)	2900	15/27.7	3/1			3/2	2/1	3/2		2/1	
MF6280	BOTH (a)	2900	15/27.7	3/1			3/2	2/1	3/2		2/1	
MF6280	BOTH (a)	2900	15/27.7	3/1			3/2	2/1	3/2		2/1	
MF6290	BOTH (a)	2900	15/27.7	3/1			3/2	2/1	3/2		2/1	
MF6350	CLOSED (LS)	3000	31.7	1			2	1	2		1	
MF6360	CLOSED (LS)	3000	31.7	1			2	1	2		1	
MF6445	CLOSED (LS)	2900	26.4	1			2	1	2		1	
MF6455	CLOSED (LS)	2900	26.4	1			2	1	2		1	
MF6460	CLOSED (LS)	2900	26.4	1			2	1	2		1	
MF6465	CLOSED (LS)	2900	26.4	1			2	1	2		1	
MF6470	CLOSED (LS)	2900	26.4	1			2	1	2		1	
MF6475	CLOSED (LS)	2900	26.4	1			2	1	2		1	
MF6480	CLOSED (LS)	2900	26.4	1			2	1	2		1	
MF6485	CLOSED (LS)	2900	29	1			2	1	2		1	
MF6490	CLOSED (LS)	2900	29	1			2	1	2		1	
MF6495	CLOSED (LS)	2900	29	1			2	1	2		1	
MF7465	CLOSED (LS)	2900	29	1			2	1	2		1	
MF7475	CLOSED (LS)	2900	29	1			2	1	2		1	
MF7480	CLOSED (LS)	2900	29	1			2	1	2		1	
MF7485	CLOSED (LS)	2900	29	1			2	1	2		1	
MF7490	CLOSED (LS)	2900	29	1			2	1	2		1	
MF7495	CLOSED (LS)	2900	29	1			2	1	2		1	
MF8120	CLOSED (LS)	2600	28	1			2	1	2		1	
MF8140	CLOSED (LS)	2900	26	1			2	1	2		1	
MF8150	CLOSED (LS)	2900	26	1			2	1	2		1	
MF8160	CLOSED (LS)	2900	26	1			2	1	2		1	
MF8220	CLOSED (LS)	2900	29/39	1			2	1	2		1	
MF8240	CLOSED (LS)	2900	29/39	1			2	1	2		1	
MF8245	CLOSED (LS)	2900	29/39	1			2	1	2		1	
MF8250	CLOSED (LS)	2900	29	1			2	1	2		1	
MF8260	CLOSED (LS)	2900	29/39	1			2	1	2		1	
MF8270	CLOSED (LS)	2900	29/39	1			2	1	2		1	
MF8280	CLOSED (LS)	2900	29/39	1			2	1	2		1	
MF8450	CLOSED (LS)	2900	39.6	1			2	1	2		1	
MF8460	CLOSED (LS)	2900	39.6	1			2	1	2		1	
MF8470	CLOSED (LS)	2900	39.6	1			2	1	2		1	
MF8480	CLOSED (LS)	2900	39.6	1			2	1	2		1	

* On all Massey-Ferguson hydraulic systems, consult your tractor dealer for special plumbing instructions.

Watch hydraulic temperature closely when using continuous duty equipment, such as hydraulic motors, to prevent overheating of the hydraulic system.

(a) Consult Massey-Ferguson to determine which type of hydraulic system this tractor has and what method to use for regulating oil flow.

CODE KEY

- (1) Best recommendation for high performance applications.
- (2) Recommended for standard applications.
- (3) Will also work.
- (LS) Load Sensing Hydraulic System. On all closed center, load sensing hydraulic systems, run hydraulic motor on priority circuit.

Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
McCORMICK												
C50	OPEN	2500	16	3			3	2	3		2	
C60	OPEN	2500	16	3			3	2	3		2	
C70	OPEN	2500	15.5	3			3	2	3		2	
C80	OPEN	2500	15.5	3			3	2	3		2	
C90	OPEN	2500	15.5	3			3	2	3		2	
C100	OPEN	2500	15.5	3			3	2	3		2	
CX50	OPEN	2500	14	1			3	2	3		2	
CX60	OPEN	2500	14	1			3	2	3		2	
CX70	OPEN	2500	15.8	3			3	2	3		2	
CX75	OPEN	2500	15.8	3			3	2	3		2	
CX80	OPEN	2500	15.8	3			3	2	3		2	
CX85	OPEN	2500	15.8	3			3	2	3		2	
CX90	OPEN	2500	15.8	3			3	2	3		2	
CX95	OPEN	2500	15.8	3			3	2	3		2	
CX100	OPEN	2500	15.8	3			3	2	3		2	
CX105	OPEN	2500	15.8	3			3	2	3		2	
MC80	CLOSED (LS)	3000	28.7	1			2	1	2		1	
MC90	CLOSED (LS)	3000	28.7	1			2	1	2		1	
MC100	CLOSED (LS)	3000	28.7	1			2	1	2		1	
MC115	CLOSED (LS)	3000	28.7	1			2	1	2		1	
MC120 Power 6	CLOSED (LS)	3000	28.7	1			2	1	2		1	
MC135 Power 6	CLOSED (LS)	3000	28.7	1			2	1	2		1	
MTX110	CLOSED (LS)	3000	28.7	1			2	1	2		1	
MTX125	CLOSED (LS)	3000	28.7	1			2	1	2		1	
MTX140	CLOSED (LS)	3000	25	1			2	1	2		1	
MTX155	CLOSED (LS)	3000	31.9	1			2	1	2		1	
MTX175	CLOSED (LS)	3000	31.9	1			2	1	2		1	
MTX200	CLOSED (LS)	3000	25	1			2	1	2		1	

MINNEAPOLIS MOLINE*											
JET STAR THREE	OPEN	1550	14	1			3	2	1		2
U302	OPEN	1700	15	3			3	2	3		2
M670 SUPER	OPEN	2000	20			2				2	
G350	OPEN	2100	5.75			2					
G450	OPEN	2133	5.75			2					
G550	OPEN	2050	NA			NOTHING RECOMMENDED					
G750	OPEN	2050	NA			NOTHING RECOMMENDED					
G850	CLOSED	2200	18	1			2		2		
G940	CLOSED	2000	18	1			2		2		
G950	CLOSED	2000	18	1			2		2		
G1050	CLOSED	2000	18	1			2		2		
G1350	CLOSED	2000	18	1			2		2		
A4T 1400	CLOSED	2000	20	1			2		2		
A4T 1600	CLOSED	2000	20	1			2		2		

*Hydraulic oil coolers are not standard on these models. An oil cooler is required for continuous duty sprayer pump operation.

OLIVER*											
550	OPEN	1700	NA			NOTHING RECOMMENDED					
1255	OPEN	1700	4.5			2					
1565	OPEN	2130	5.75			2					
1355	OPEN	2200	5.75			2					
1365	OPEN	2130	5.75			2					
1555	OPEN	2050	11	2			3		2		
1655	OPEN	2050	11	2			3		2		
1755	CLOSED	2200	18	1			2		2		
1855	CLOSED	2200	18	1			2		2		
1955	CLOSED	2200	18	1			2		2		
2050	OPEN	2050	11	2			3		2		
2150	OPEN	2050	11	2			3		2		
2155	CLOSED	2000	18	1			2		2		
1655	CLOSED	2000	20	1			2		2		

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CODE KEY

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
STEIGER												
BEARCAT	OPEN	2000	22			2				2		
BEARCAT ST-25	OPEN	2250	20			2				2		
BEARCAT ST220	OPEN	2250	20			2				2		
BEARCAT PT225	OPEN	2250	20			2				2		
BEARCAT IV CM225	OPEN	2250	20			2				2		
BEARCAT IV KM225	OPEN	2250	20			2				2		
COUGAR	OPEN	2000	22			2				2		
COUGAR DTA-280	OPEN	2250	20			2				2		
COUGAR ST250	OPEN	2250	20			2				2		
COUGAR ST251	OPEN	2250	20			2				2		
COUGAR ST270	OPEN	2250	20			2				2		
COUGAR PT270	OPEN	2250	20			2				2		
COUGAR IV CM250	OPEN	2550	20			2				2		
COUGAR IV CM280	OPEN	2550	20			2				2		
COUGAR IV CS280	OPEN	2550	20			2				2		
COUGAR IV KM280	OPEN	2550	20			2				2		
COUGAR IV KS280	OPEN	2550	20			2				2		
COUGAR CM-150	OPEN	2550	20			2				2		
COUGAR PTA251 (a)	OPEN	2550	20			2				2		
COUGAR PTA270 (a)	OPEN	2550	20			2				2		
COUGAR ST280 (a)	OPEN	2550	20			2				2		
COUGAR PTA280 (a)	OPEN	2550	20			2				2		
COUGAR 1000	CLOSED	2500	27	1			2	1	2		1	
COUGAR CR1225 (b)	CLOSED (LS)	2500	30	1			2	1	2		1	
COUGAR KR1225 (b)	CLOSED (LS)	2500	30	1			2	1	2		1	
COUGAR CR1280 (b)	CLOSED (LS)	2500	30	1			2	1	2		1	
COUGAR KR1280 (b)	CLOSED (LS)	2500	30	1			2	1	2		1	
LION 1000	CLOSED	2500	27	1			2	1	2		1	
PANTHER PTA297	OPEN	2250	20			2				2		
PANTHER ST310	OPEN	2250	20			2				2		
PANTHER ST320	OPEN	2250	20			2				2		
PANTHER CS325	OPEN	2250	20			2				2		
PANTHER ST325	OPEN	2250	20			2				2		
PANTHER KS325	OPEN	2250	20			2				2		
PANTHER III PTA325 (a)	OPEN	2250	20			2				2		
PANTHER IV CM325	OPEN	2250	20			2				2		
PANTHER IV KM325	OPEN	2250	20			2				2		
PANTHER SM-325	OPEN	2250	20			2				2		
PANTHER PT350	OPEN	2250	20			2				2		
PANTHER ST350	OPEN	2250	20			2				2		
PANTHER IV CM360	OPEN	2250	20			2				2		
PANTHER CS-360	OPEN	2250	20			2				2		
PANTHER IV KM360	OPEN	2250	20			2				2		
PANTHER KS360	OPEN	2250	20			2				2		
PANTHER CP1325	CLOSED (LS)	2500	25	1			2	1	2		1	
PANTHER KP1325	CLOSED (LS)	2500	25	1			2	1	2		1	
PANTHER CP1360	CLOSED (LS)	2500	25	1			2	1	2		1	
PANTHER KP1360	CLOSED (LS)	2500	25	1			2	1	2		1	
PANTHER CP1400	CLOSED (LS)	2500	25	1			2	1	2		1	
PANTHER KP1400	CLOSED (LS)	2500	25	1			2	1	2		1	
PANTHER PTA310 (a)	OPEN	2250	20			2				2		
PANTHER 1000	CLOSED	2500	27	1			2	1	2		1	
PUMA	CLOSED	2500	27	1			2	1	2		1	
SUPER WILDCAT	OPEN	2000	24			2				2		
TIGER	OPEN	2000	25			2				2		
TIGER ST450	OPEN	2250	25			2				2		
TIGER ST470	OPEN	2250	25			2				2		
TIGER IV KP525	OPEN	2250	25			2				2		
WILDCAT RC210	OPEN	2250	20			2				2		
WILDCAT ST210	OPEN	2250	20			2				2		
WILDCAT 1000	CLOSED	2320	27	1			2		2			
9330	CLOSED (LS)	2900	28	1			2	1	2		1	
9350	CLOSED (LS)	2900	30	1			2	1	2		1	
9370	CLOSED (LS)	2900	30	1			2	1	2		1	

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
STEIGER Cont.												
9380	CLOSED (LS)	2900	30	1			2	1	2		1	
9390 REMOTE 1 & 2	CLOSED (LS)	2900	30	1			2	1	2		1	
9390 REMOTE 3 & 4	OPEN	2900	30			2				2		
QUADTRAC	CLOSED (LS)	2900	31	1			2	1	2		1	
STX275	CLOSED (LS)	2900	40/55	1			2	1	2		1	
STX325	CLOSED (LS)	2900	40/55	1			2	1	2		1	
STX375	CLOSED (LS)	2900	40/55	1			2	1	2		1	
STX425	CLOSED (LS)	2900	40/55	1			2	1	2		1	
STX450	CLOSED (LS)	2900	40/55	1			2	1	2		1	
STX500	CLOSED (LS)	2900	42/57	1			2	1	2		1	

Steiger does not recommend use of continuous duty equipment without flow divider or auxiliary cooler. Coolers are available for older model tractors.

(a) Series III tractors available with flow divider kit. Standard output 9 GPM. Optional output 18 GPM.

(b) Each outlet has flow control adjustability from 3-25 or 30 GPM.

VALTRA											
BH140	OPEN	2610	21			2				2	
BH160	OPEN	2610	21			2				2	
BH180	OPEN	2610	21			2				2	
BM100	OPEN	2610	13.6	1		3			1		
BM110	OPEN	2610	13.6	1		3			1		
BM120	OPEN	2610	13.6	1		3			1		
C90	CLOSED (LS)	2842	24	1			2	1	2		1
C100	CLOSED (LS)	2842	24	1			2	1	2		1
C110	CLOSED (LS)	2842	24	1			2	1	2		1
C120	CLOSED (LS)	2842	24	1			2	1	2		1
C130	CLOSED (LS)	2842	24	1			2	1	2		1
C150	CLOSED (LS)	2842	24	1			2	1	2		1
M120	CLOSED (LS)	2842	24	1			2	1	2		1
M130	CLOSED (LS)	2842	24	1			2	1	2		1
M150	CLOSED (LS)	2842	24	1			2	1	2		1
S240	CLOSED (LS)	2900	39	1			2	1	2		1
S280	CLOSED (LS)	2900	39	1			2	1	2		1
T120	CLOSED (LS)	2842	24	1			2	1	2		1
T130	CLOSED (LS)	2842	24	1			2	1	2		1
T140	CLOSED (LS)	2842	24	1			2	1	2		1
T160	CLOSED (LS)	2842	24	1			2	1	2		1
T170	CLOSED (LS)	2842	24	1			2	1	2		1
T180	CLOSED (LS)	2842	24	1			2	1	2		1
T190	CLOSED (LS)	2842	24	1			2	1	2		1
XM130	CLOSED (LS)	2842	24	1			2	1	2		1
XM150	CLOSED (LS)	2842	24	1			2	1	2		1
6200	OPEN	2755	19			2				2	
6250	OPEN	2755	19			2				2	
6300	OPEN	2755	19			2				2	
6350	OPEN	2755	19			2				2	
6400	OPEN	2755	19			2				2	
6550	OPEN	2755	19			2				2	
6850	OPEN	2755	19			2				2	
8050	OPEN	2900	19			2				2	
8150	OPEN	2900	19			2				2	
8350	OPEN	2900	19			2				2	
8550	OPEN	2900	19			2				2	
8750	OPEN	2900	19			2				2	
8950	OPEN	2900	19			2				2	

VERSATILE											
118	OPEN	1700	12.5	2			3		2		
118 After 1971	OPEN	2000	16.5	3				2	3		2
125	OPEN	1750	12.5	2					2		
145	OPEN	1750	12.5	2			3		2		
145 After 1971	OPEN	2000	16.5	3				2	3		2
150	OPEN	2500	14	1			3	2	1		2
150 After 1976	OPEN	2500	15	3			3	2			2
150 Series II	OPEN	2250	15	3			3	2	3		2

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
VERSATILE cont.												
256	CLOSED (LS)	2800	27.6	1			2	1	2		1	
276	CLOSED (LS)	2800	27.6	1			2	1	2		1	
300	OPEN	2000	16	3			3	2	3		2	
500	OPEN	2300	24			2				2		
555	OPEN	2400	23.2			2				2		
700	OPEN	2000	24			2				2		
700 Series II	OPEN	2300	25			2				2		
750 Series II	OPEN	2300	23.5			2				2		
756	CLOSED (LS)	2400	25	1			2		2			
800	OPEN	2000	20			2				2		
800 Series II	OPEN	2300	23.5			2				2		
825 Series II	OPEN	2300	23.5			2				2		
835 (a)	OPEN	2300	23.5			2				2		
836	CLOSED (LS)	2400	25	1			2		2			
850	OPEN	2000	20			2				2		
850 Series II	OPEN	2300	23.5			2				2		
855 (a)	OPEN	2300	23.5			2				2		
856	CLOSED (LS)	2400	25	1			2		2	2		
875 (a)	OPEN	2300	23.5			2				2		
876	CLOSED (LS)	2400	25	1			2		2			
895 (a)	OPEN	2400	23.6			2				2		
900	OPEN	2000	26			2				2		
900 Series II	OPEN	2300	25			2				2		
905	OPEN	2300	23.5			2				2		
935 (a)	OPEN	2300	25			2				2		
936	CLOSED (LS)	2400	24	1			2	1	2		1	
945	OPEN	2250	23.6			2				2		
950 (a)	OPEN	2300	25			2				2		
950 Series II	OPEN	2300	25			2				2		
955	OPEN	2250	23.6			2				2		
956	CLOSED (LS)	2400	24	1			2		2			
975	OPEN	2250	23.6			2				2		
976	CLOSED (LS)	2400	24	1			2	1	2		1	
1150	CLOSED (LS)	2500	27	1			2	1	2		1	
1156	CLOSED (LS)	2500	27	1			2	1	2		1	
9030	CLOSED (LS)	2400	25	1			2		2			
9280	CLOSED (LS)	2400	25/30	1			2		2			
9480	CLOSED (LS)	2400	25/30	1			2		2			
9680	CLOSED (LS)	2400	25/30	1			2		2			
9880	CLOSED (LS)	2400	25/30	1			2		2			

(a) On 1975 or newer tractors, power steering will affect hydraulic flow.
Consult your Versatile Farm Equipment dealer for special plumbing instructions.

WHITE*											
60	OPEN	2200	20			2				2	
80	OPEN	2200	20			2				2	
100	CLOSED	2250	19	1			2		2		
120	CLOSED	2250	22	1			2		2		
125	CLOSED	2250	22	1			2		2		
140	CLOSED	2250	22	1			2		2		
145	CLOSED	2250	22	1			2		2		
160	CLOSED	2250	22	1			2		2		
170	CLOSED	2500	22	1			2	1	2		1
185	CLOSED	2250	22	1			2		2		
195	CLOSED	2500	22	1			2	1	2		1
700 *	OPEN	3400	5.5			2					
1355 *	OPEN	3400	5.5			2					
1365 *	OPEN	3400	5.5			2					
2-30 *	OPEN	2130	5.4			2					
2-35 *	OPEN	2130	5			2					
2-45 *	OPEN	2275	8.5	3			2				
2-50 *	OPEN	2130	5.5			2					
2-55	OPEN	2515	11.9	2			3		2		
2-60 *	OPEN	2130	5.5			2					
2-62 *	OPEN	2275	8.5	3			2				

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Manufacturer and Model	Hydraulic System Type	Maximum Pressure (PSI)	Maximum Flow (GPM)	HYPRO PUMP MODEL								
				All 9302 – 9303					All 9304 – 9306			
				HM1C	HM2C	HM3C	HM4C	HM5C	HM1C	HM3C	HM5C	
WHITE Cont.												
2-65	OPEN	2415	11.9	2			3		2			
2-70 *	OPEN	2050	14.6	1			3	2	1	2		
2-70 ROW CROP * (a) (d)	OPEN	2050	11	2			3		2			
2-75	OPEN	2986	12	2			3		2			
2-85 * (b)	CLOSED	2250	18	1			2		2			
2-85 After 1979	CLOSED	2250	21	1			2		2			
2-88	CLOSED	2250	21	1			2		2			
2-105 * (b)	CLOSED	2250	18	1			2		2			
2-105 After 1979	CLOSED	2250	21	1			2		2			
2-110	CLOSED	2250	21	1			2		2			
2-135 * (b)	CLOSED	2250	20	1			2		2			
2-135 After 1979	CLOSED	2250	21	1			2		2			
2-150 *	CLOSED	2250	20	1			2		2			
2-160	CLOSED	2300	20	1			2		2			
2-155 * (b)	CLOSED	2300	20	1			2		2			
2-155 After 1979	CLOSED	2300	21	1			2		2			
2-180 * (c)	CLOSED	2300	22	1			continuous hyd draw max.		2			
4-150 *	CLOSED	2250	20	1			2		2			
4-175 *	CLOSED	2250	20	1			2		2			
4-180 *	CLOSED	2250	20	1			2		2			
4-210 *	CLOSED	2250	20	1			2		2			
4-225 *	CLOSED	2250	25	1			2		2			
4-270 *	CLOSED	2250	27	1			2		2			
6045	OPEN	2610	14.9	3			3	2	3	2		
6065	OPEN	2610	9.6	2			3		2			
6085	OPEN	2610	14.5	1			3	2	1	2		
6105	OPEN	2610	15.9	3			3	2	3	2		
6124	CLOSED (LS)	2900	27	1			2	1	2	1		
6125	CLOSED	2250	22	1			2		2			
6144	CLOSED (LS)	2900	27	1			2	1	2	1		
6145	CLOSED	2250	22	1			2		2			
6175	CLOSED	2500	22	1			2	1	2	1		
6195	CLOSED	2500	22	1			2	1	2	1		
6215	CLOSED	2500	22	1			2	1	2	1		
6410	OPEN	3045	25.8			2				2		
6510	OPEN	3045	25.8			2				2		
6710	CLOSED (LS)	2900	27.7	1			2	1	2	1		
6810	CLOSED (LS)	2900	27.7	1			2	1	2	1		
8310	CLOSED (LS)	2900	29	1			2	1	2	1		
8410	CLOSED (LS)	2900	29	1			2	1	2	1		
8510	CLOSED (LS)	2900	29/39	1			2	1	2	1		
8610	CLOSED (LS)	2900	29/39	1			2	1	2	1		
8710	CLOSED (LS)	2900	29/39	1			2	1	2	1		
8810	CLOSED (LS)	2900	29/39	1			2	1	2	1		

*For use with continuous duty equipment such as hydraulic motors, auxiliary coolers are required.

(a) For spraying pressures in excess of 60 PSI, use the smaller hydraulic motor.

(b) After 1979, availability at remote increased to 21 GPM.

(c) Do not exceed 6 GPM continual draw at remote outlet or 80 PSI deadhead pressure on pump.

(d) When power steering is being used, gallonage is decreased to approximately 8 GPM, consequently so is centrifugal output.

CODE KEY

- (1)** Best recommendation for high performance applications.
- (2)** Recommended for standard applications.
- (3)** Will also work.
- (LS)** Load Sensing Hydraulic System. On all closed center, load sensing hydraulic systems, run hydraulic motor on priority circuit.

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